

# THE THEORY OF INTERNATIONAL WAR & PEACE

G. C. Banerji, B.E., C.E.

The real state of affairs that actually prevails in the human society is very different from the conceptions on which the machineries for the elimination of War and installation of Peace were framed. The *total* elimination of War is an abnormal conception. This book, it is hoped, would furnish the necessary right materials for the solution of the problem as to how a number of independent countries or sovereign states, acknowledging no common superior, can live side by side in *practical harmony*, and how can they settle their quarrels with recourse to the arbitrament of war which causes the *minimum* of injury or destruction and keeps the human society safe from *violent* commotion and convulsion. The remedy suggested, it would transpire, is the *only specific* against *ultima ratio regum*—the last argument of kings or violent wars. Anything else is clearly inconceivable.

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### **Publishers' Note :**

49.

The author has thrown a flood of brilliant light on the tendency of human actions in conformity to Truth and Reality. The book is really a new scientific revelation of the Laws of Creation, and we do hope that it would receive its just appreciation in the hands of every statesman and thinker who actually wants to make the International Life smooth and equably moving, and who in fact, thinks in terms of making the Social stability completely continual in time. The mode of exposition of the subject-matter dealt with also appears to be exceptionably striking.

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Ed 819(1) **THE THEORY**  
**OF**  
**INTERNATIONAL WAR & PEACE**

*(A Mathematical, Scientific, Philosophical and Economical study of the problem with reference to the Laws of Creation and the records of History.)*

**G. C. BANERJI, B.E., C.E.**



**PRABARTAK PUBLISHERS**

**61, BOWBAZAR STREET,  
CALCUTTA.**

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## FOREWORD

*Vox, et præterea nihil*—A voice, and nothing more. Would the voice reach the world's ears?

In obedience to the immutable Laws of Nature, both good and evil, light and darkness, virtue and vice, crime and the seed of its detection, a disease and its remedy lie together side by side. The Continent of Europe has had been the breeding-ground for wars for some centuries past, but Nature had not been a silent spectator to the whole show. It has had shown its uniformity by awakening the light of knowledge and stimulating the desire for the elaboration of Peace Projects.

*Jus gentinum and jus naturæ*: The conception that the law of nations is different from or independent of the law of nature is a fallacious one. The living world and the material system are the opposite aspects of the same thing, and are linked up together by the creation of invisible and impartible chains of mutual dependencies, involving mutual and reciprocal interactions between the partial systems, that is to say, the tendency of perpetual motion—continuation of motion or motion forward without any restraint in the living world—is balanced by the tendency of perpetual rest—ceasing from motion or motion backward in the material system—and vice versa, to adjust their comparative relations and to secure a consistent uniform conduct for the restoration of steady motion, as well as for retaining the identity and the perpetuity. The tendency to undergo changes beyond the prescribed limits is also adjusted by the expansions and the contractions of the universe, subject to the control from the Origin,—the



known Centre, of Force at Infinity,—which supplies all the forces of repulsion, attraction, limitation and restraint.

The subject-matter of the present thesis has been divided into six chapters. In Chapters (I) and (II) an attempt has been made to discuss the logical fallacies involved in the Schemes developed so far and the Laws of Creation that were transgressed in the elaboration of these projects, and also to show that the conception of an universal and perpetual peace is an impossible state of affairs in so far as the human society is concerned, just as the notion of perpetual motion is impracticable in the material system, inasmuch as the tendencies of motion and of rest of the different partial systems—the parts of a system in involution—have a relation of inseparable, collateral and reciprocal connection and follow the Law of Concomitant variations which would further be dealt with in the body of the thesis. Chapters (III), (IV) and (V) would be seen to throw or give out in succession those principles in the domain of Mathematics, Physics, Chemistry, Astronomy, Physiology, Philosophy and Economics which would be found sufficient to give an idea of the tendencies of human actions, hitherto *unknown* to the world, and Chapter (VI) deals with the question of framing a *Hypothesis of Peace*, to be in keeping with the repetitions of the eternal and the unportentous cycles of operations which come into play with the lapse of time to maintain the identity and the perpetuity of a conservative system, and also quite consistently with the facts and the materials of which we are now in possession from the past records of the world.

The reading of the very beautiful book,—Commonwealth or Anarchy? by Sir John A. R. Marriott,

—from which profuse quotations have been made, and the study of the allied literature on the subject gave me an incentive, under the influence of the present world situation, to write out this thesis on International War & Peace. "Successive Peace Projects,"—said Sir John—"have failed in their object,—viz., the elimination of war as an instrument for the settlement of international disputes. Whether the failure is due to defective machinery or to the unregenerate nature of man, is a question left by the author to the readers of this book. His object is to supply them with facts from which conclusions may be drawn".

The thesis, it is hoped, would supply the correct answer to the question; and would also furnish the necessary right materials for the solution of the problem as to how a number of Independent Countries or Sovereign States, acknowledging no common superior, can live side by side in *practical* harmony and how can they settle their quarrels with recourse to the arbitration of war which causes the *minimum* of injury or destruction and keeps the human society safe from violent commotion and convulsion.

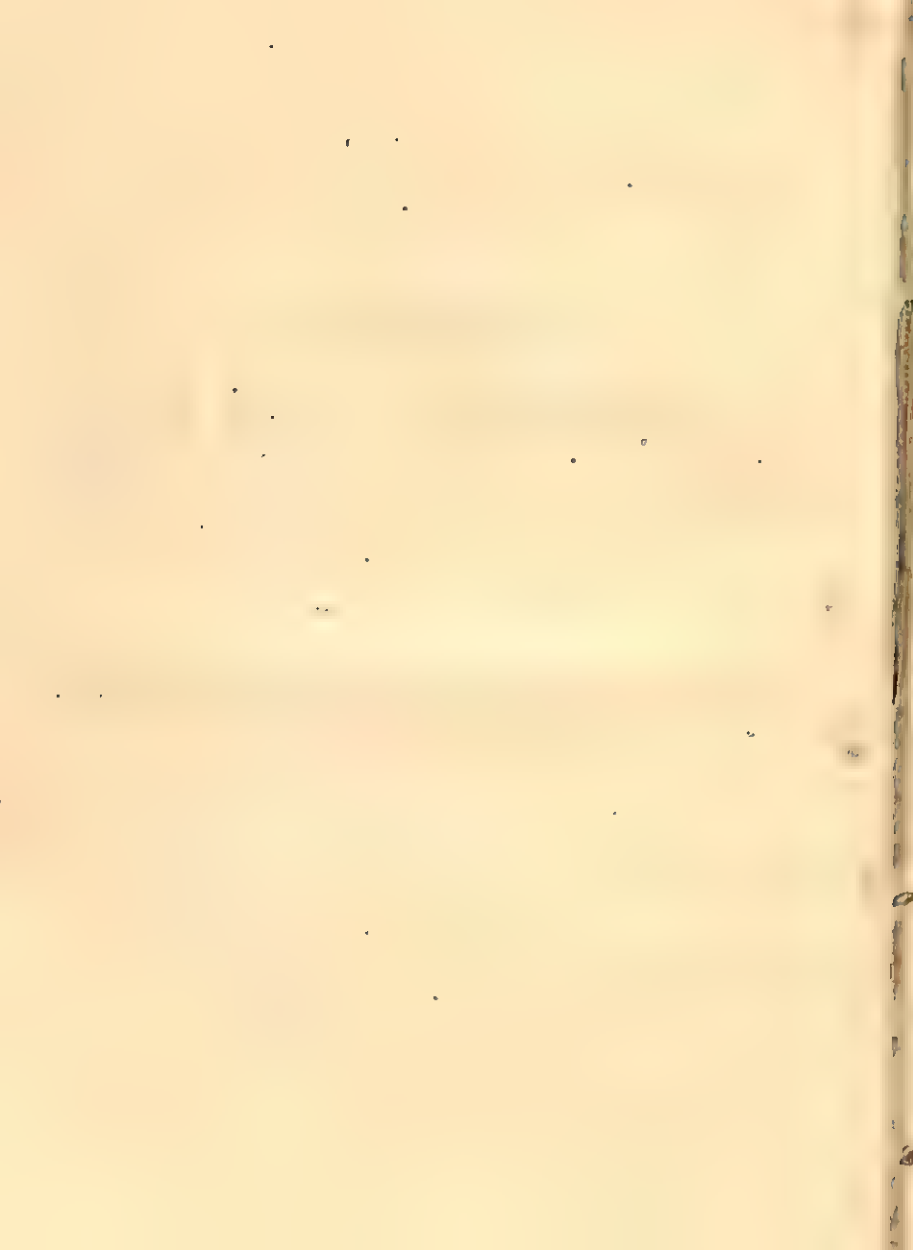
The Hypothesis of Peace that was developed by the sages of ancient India and was incorporated in the Rig-Veda has also been set forth in the concluding portions of the work.

62/C, Braunfeld Row,  
Alipore, Calcutta,  
January 27th, 1947.

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THE THEORY OF  
INTERNATIONAL WAR & PEACE





## CHAPTER I

### A Short Sketch of The Three Past Principal Projects of Peace—A Predominating Power, The Great Design of Henry IV and The League of Nations.

*The Position of the Universe with reference to Motion and Rest. Perpetual Motion :* Perpetual Motion is impossible in the material system. It is a consequence of the principle of the Conservation of Energy. If it were possible to secure perpetual motion by creating more energy and consequently more work than what was contemplated by Nature, the consequence would have been the production of only one and the same operation of continuing the motion without any restraint or (that is) an infinite series of variable operations passing from one state to another for all times putting a stop to the identity and the perpetuity of the present system and meaning clearly the destruction of the existing universe, which is beyond human power.

*Perpetual rest or Peace :* Perpetual rest or Peace is likewise impossible in the living world, as here also the principle of the Conservation of Energy comes in. If it were possible to secure perpetual peace which means the elimination of the creative energy of nature—the energy of a conservative system—the consequence would have been to bring the system to a stationary condition or to one and the same state of perpetual rest by ceasing from motion, precluding the possibility of its identity and perpetuity and implying evidently the dissolution or the destruction of the present universe which is also an impossible idea as before.

Then again, in view of the mode or manner in which the two main partial systems have been calibred and coupled up together, the effect of the notion of endowing the material system with perpetual motion as well as of imbuing the living world with perpetual rest, with the present disposition of the universe, would be to create a vicious circle of transmutation from one system on to the other, involving the conception of the whole universe to have proceeded from out of nothing (which is contrary to any experience and is inconceivable (*Ex-Nihilo Nihil fit\**) and to have melted away again into the original background of nothingness and so the very idea of perpetual motion as well as of perpetual rest in the systems involved is barred by the eternal existence of the visible Universe. The ever-lasting visible Universe is the apparent reason as to why the operations by which work can be converted into heat is not a completely reversible process.

*Nature : Its Identity, Perpetuity and Consistency† :*  
We speak of Nature and we know that it is a conservative system which is kept together or maintained by never-ceasing cycles of operations along with unceasing changes in its constituents but with the eternal existence of consistency in the relations of the different parts to the whole and to one another, maintaining their identities and perpetuities by the actions and the re-actions of the component parts. The evaporation of water from the surface of the Ocean by the heat of the sun and its course back again to the sea by condensation, the phenomena of the seasons and the tides with all their accompani-

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\* "ना वस्तुनो वस्तुसिद्धिः" ।

† "यद्येदानीं तथाचाग्रे पश्चादप्येतदीदृशम्"—भागवत ३५ स्कन्ध ।



ments, the cycles of the Sun, the Metonic and the Platonic cycles, the cycles of the living beings and of the vegetable kingdom are well-known illustrations of the periodic character of the actions of nature which sustain the Universe, and it is only by these never-ceasing cycles of operations in a similar manner that an identical system could be carried on to perpetuity. Nature is uniform—it is consistent with itself. It will behave in the same way under similar circumstances, that is to say, if the conditions be similar, similar events would occur.

*The Cause of a War:* The cause of a war is very different from the circumstances which lead to it. Starting from the Greco-Persian Wars fought in ancient times (499-478 B.C.) when the Ionic Greek Cities struggled for freedom from Persian domination and by which the Persian power in Greece was for ever destroyed, the Punic Wars (264-146 B.C.) between Rome and Rome's great rival Carthage (near Present Tunis) the centre of a great empire including the Mediterranean coast of Africa and the coast lands of Spain, Corsica and Sardinia, over the possession of Sicily, resulting in the complete destruction of Carthage by Scipio (*Delenda est Carthago*) and proceeding up to the wars of the present times over a period of about 2500 years through more than two dozens of wars including the wars of Louis XIV and Napoleon Bonaparte and taking into account all the wars, which had taken place on the surface of the earth in ancient times, it would be observed that the cause of a war is the same in all the cases. It is the *Raja* along with its reaction—the *Tama* of the Hindu Philosophers—the Moloch of Milton's *Paradise Lost*. It is the immediate, invariable and unconditional antecedent in every case.

*Raja, Tama and Sattva—The Three Principles\* :*

A drop of water is a part of the ocean. The living world of which man is but a part is only a part of the Universe. The predominating element in man (nay, in the whole living world) as created, is the attribute of *Raja*—passion, lust, greed, envy, jealousy, restlessness, craving for power, enterprise in worldly achievements. The reaction of *Raja* is *Tama*—darkness, delusion, want of consciousness, heedlessness, ruthlessness, which passing through the successive stages of its development leads to destruction. Day follows night. But day does not succeed night. The cause of day is something else—the presence of the sun. *Sattva*—purity, simplicity, freedom from duplicity, peace follows *Tama* but *Sattva* does not succeed *Tama*. The cause of *Sattva* is also something else—the awakening of the light of knowledge.

A group of ideas, passion, lust, greed, envy, jealousy, restlessness, craving for power, enterprise in worldly achievements is expressed by *Raja*. The reaction of *Raja* is *Tama*—delusion, darkness, want of consciousness, heedlessness, ruthlessness. *Raja* and *Tama* are the opposite aspects of the same thing. They are the two sides of a picture corresponding to the action and reaction of Newton's Third Law of Motion. It is owing to the action of this attribute of *Raja* and consequently of *Tama*, no one, an individual or a nation, would like to part with power unless and until forced by pressure of circumstances to do it. In India before the battle of Kurukshetra the party in possession of power asserted that he would not part with as much land as could be

\* "सत्त्वराजस्तमसाम् साम्यावस्थाप्रकृतिः"—सांख्यप्रवचन ।

covered by the point of a needle without war. The War took place and the said party could not retain as much land as could be covered by that point. It is due to the action of this *Raja* that Caius Julius Cæsar, (102-44 B.C.), one of the greatest men of antiquity, was in conflict with Pompey, resulting in the murder of the latter. It is the something that we see in every walk of life and it is the same thing that we are still seeing in all what is happening before our eyes at the present times.

*Nature—Its Uniformity—The Elaboration of Peace Projects*: Nature is uniform, that is to say, it has always the one and the same form, inasmuch as the three aspects of creation, destruction and preservation are eternal and never-changing. Destruction occupies the intermediate position between creation on one hand and preservation on the other. It is the destruction which stimulates the desire for creation so that the system can go on and it is the same destruction which gives an impulse to find out ways and means so that the system may be preserved. Destruction plays a unique part in the development of knowledge. It is the basis and the starting point in the evolution of all knowledge in so far as humanity is concerned, quite independently of time and place. It is the basis and the starting point in the evolution of peace out of war.

The recurrence of wars in this world of ours is nothing new. It has manifested itself in all ages and in all climes entailing in its train the horrors of destruction, and it is the knowledge of these horrors of destruction that had reacted upon the master minds to seek for peace.



Europe was not an exception to this rule. This continent has had been the breeding-ground for wars for some centuries past but Nature had not been a silent spectator of the whole show. Nature had shown its uniformity by awakening the light of knowledge and stimulating the desire for the elaboration of peace-projects.

*The Projects of Peace : A Predominating Power—Dante, Postel, Grotius and Kant.—A Super-State—An unnatural idea :* It was about the middle of the 16th Century that a French soldier William Postel (1510-1581) put out a hypothesis for the installation of international peace. His hypothesis was that "the best hope of international comity lay in the rise of a preponderating power". Postel was not the original author of this view. Its originality lay with the Florentine Poet Dante (1265-1321) who held the view that "for the attainment of peace there must be one guiding or ruling power," but he did not say anything about the mode of operation of that power. The hypothesis, then, was only a hypothesis of agent only. In the absence of the hypothesis of collocation it was only an imperfect and incomplete hypothesis.

A predominating power means the highest or the uncontrollable power. An uncontrollable power and the idea of its control are absurd, inconceivable and self-contradictory. It might be advanced as an argument to meet one's own end, but it is contrary to the dictates of reason. The creator himself is in a critical condition. Postel was a "mystic of unstable mental equilibrium". Dante was a poet. "Both are of imagination all compact". More than 600 years have rolled on since Dante

"shuffled off his mortal coil" in 1321 and the world has the experience of this long period before its eyes. To quote Lord Byron—"Dante sleeps afar".

"As the plan of the world" said Hugo Grotius "includes societies or states, as well as individuals or citizens; all the political societies can and should move within the great human society". It should be so. But 'the cruel disappointment and the painful disillusionment' would appear to have their origin in the neglect or the failure to comply with the condition precedent that is necessary for the realization of the aims and the ideals, viz,—to bring down the enormous differences in 'heads'—'the relative inequalities'—or the tremendous differences in the strengths and the resources of the states as well as of individuals or citizens—to the lowest possible limits by uplifting the smaller and the weaker components to satisfy their tendencies to grow up to have a close and intimate contact with the bigger and the stronger ones, as demanded by the laws of creation. The doctrine of a preponderating power is clearly in contravention of the functional disposition of the human Society (nay, of the whole living society). Kant, as is well known, repudiated the idea of a super-state. The idea of a predominating power, such as the sun, is tenable in the material order of things.

*The Great Design of Henry IV.—A Federation of States by the willing transfer of power—an unnatural idea as before:* The biggest peace project that was put forward in the 16th Century was the Great Design of Henry IV. The provisions of the scheme are taken to be too well known to require reproduction here in full. The project or the scheme was after all a hypothesis

devised and framed with the idea that the provisions contained in it would be capable of attracting the monarchs and laying the foundation stone for the attainment of an universal and perpetual international peace in Europe. The scheme contemplated the attainment of its object through voluntary transfer of power on the part of the Nation-States of Europe, so that "No single Power was to be left in a position to dominate Europe, still less to aspire to Universal Monarchy; Europe was to be a Federation of States, equal in status and, in far as possible in power; the Government of the Federation was to be vested in a Senate which was to have at its disposal a common fund and an international force; the stronger would thus be restrained and the weaker protected, nor was any Great Power to be allowed in future to acquire extra-European colonies or dependencies. Religious differences were also to be eliminated as a cause of war."

Physically, mentally or morally all the Nation-States of Europe are not and cannot be at any time at the same stage of development. Some are weak, some are strong and some are stronger still. The scheme might have been an advantage to the weaker states but the very suggestion that "No single Power was to be left in a position to dominate Europe still less to aspire to Universal Monarchy; nor was any Great Power to be allowed in the future to acquire extra-European colonies or dependencies" was clearly against the ideas of the stronger ones. Voluntary transfer of power or putting a restraint on one's own self, unless and until forced by pressure of circumstances, is an unnatural idea in the category of living beings. It is unknown in the history of the world. Willing transfer of energy—both

radiant and irradiant—for the growth and development of others is natural in the material system.

The suggestions that were made in the scheme for the voluntary transfer of power and for perpetual peace were not based on any observed facts—and it is clear from what has been said above that the ideas involved in the design are inconceivable. Logically, the scheme, therefore, could not have been accepted as a valid and legitimate hypothesis for the solution of the problem in question. The march of events in Europe during the last 400 years has proved very clearly that the hypothesis was a wrong one. The Great Design of Henry IV needs one more passing remark. The condition of Europe in the 16th century was very different from what it was before. The events which culminated in the issue of the Edict of Nantes in 1598 by Henry IV of France (1553-1610) granting toleration to the Protestants and the conclusion of the treaty of Vervins with Spain in the same year, are too well-known facts of history and need not be reproduced here in detail. Briefly speaking, Henry IV of France became a Roman Catholic in the year 1572 and succeeded to the throne of Navarre. In 1576, he escaped from Paris and placed himself at the head of the Huguenots. In 1587 he gained the battle of Coutras and in 1589 succeeded to the throne of France. But he again consented to abjure it in 1593. The drift of the events was to create a state within a state and thus to cause the political disruption of France. It was only by the determined action of Cardinal Richelieu that the crisis could be averted.

Henry IV was a wise, generous and talented Sovereign; but the question that now arises is what was



the reason which led this exceptionally enlightened Emperor to abdicate the throne of France. History tells us that his "religion proved an obstacle to his coronation." But history also tells us that his "abjuration was very disagreeable to the Protestants and did not prove quite satisfactory to the opposite party who doubted his sincerity." This evidently implies that the retention of the throne of France by Henry IV was considered desirable both by the Protestants and the Roman Catholics. The two statements of history would thus appear to be in conflict with each other and would lead one to think that the cause of abdication was something else. Whatever it may be, voluntary transfer of power is an unnatural idea, and so his proposal to "relinquish voluntarily and forever all power of augmenting his own dominions, not only by conquest but by every other just and lawful means to convince men of his own complete disinterestedness" was not consistent with the real state of things. It is not in the renunciation of power, but in the maintenance of an all-permeating propriety in the adjustment of power and resistance that lasting world peace is to be looked for. Brihaspati himself holds the sceptre in one of his four hands.

*The League of Nations—A Super-State as well as a Federation of States with the same incipient distortion—failure is inevitable :* The great design of Henry IV was the progenitor of the League of Nations which came into being on the 10th of January, 1920, created by the Treaty of Versailles, following the First World War. The difference between the two was that while the Design lacked the Court of International Justice, the League was without the International Force. It has been

suggested that both the Design and the League would have been successful if the former had been provided with the court of International Justice and the latter with the International Military Establishment. But as both the Court of International Justice and the International Military Establishment contemplate transfer of power their addition to the respective machineries would have meant only a further restraint on the Nation-States of Europe. Putting a restraint on one's own self and the idea of supremacy are two different, inconsistent and diametrically opposite ideas and so had the Design been provided with the Court and the League with the Military Force, it is only reasonable to think that they would have remained in the same position and their fates would also have been the same as the world sees them now, for the success of an all-pervading, unnatural plan can only lead to the destruction of the universe. All the three projects are chimerical.

"Sir John Fischer Williams ingeniously suggests that the League may be likened to a Charitable Corporation or Trust, but whether the analogy would satisfy the more ardent internationalists is doubtful. Whatever the true analogy, it soon became manifest that there were serious gaps in the structure, and that unless they could be filled in, the impotence of the League would be only too quickly revealed. To the difficult task of filling in the gaps the statesmen and the thinkers of Europe have, for the last fifteen years (1921-1936), devoted much thought and energy." With what results the world already knows.

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## CHAPTER II

A disquisition on the other Projects of Peace which grew up in Europe from the Sixteenth Century down to the present time.

*The State of Nature—Thomas Hobbes and Immanuel Kant:* The English Philosopher Thomas Hobbes (1588-1679) assumed that "the state of Nature was a state of perpetual war. In that state, the life of man was consequently 'solitary, poor, nasty, brutish and short.' From that intolerable condition man had painfully escaped by means of a 'mutual contract'. Under the terms of that contract the individual citizens had agreed to confer supreme and unlimited authority upon the Sovereign. From a relapse into that brutish condition the Sovereign must protect the subjects who to that end have endowed him with absolute power. But should the Sovereign lack the force or the will to perform the primary function of his being, the citizens are free to renounce obedience, and resume the right of self-protection. The obligation of subjects to the Sovereign is understood to last as long, and no longer, than the power lasteth by which he is able to protect them. For the right men have by Nature to protect themselves, when none else can protect them, can by no covenant be relinquished. The Sovereignty is the soul of the Commonwealth; which once departed from the Body, the members doe no more receive their motion from it. The end of Obedience is protection; which, where-soever a man seeith it, either in his own, or in another's sword,

Nature applyeth his obedience to it, and his endeavour to maintain it." "Kant also visualized the state of Nature as a state of war" and 'although', he explained, 'there is not always perhaps actual open hostility, yet there is a constant threatening that an outbreak may occur'.

*The Human System—a conservative one. External & Internal actions:* To put it in the language of Prof. Clerk Maxwell,—“The fact remains that no instance of a non-conservative system has hitherto been discovered that is to say all material systems may be regarded as conservative. Energy cannot exist except in connection with matter and all we know of matter relates to the series of phenomena in which energy is transferred from one portion of matter to another till in some part of the series our bodies are affected and we become conscious of a sensation. By the mental process which is founded on such sensation we come to know the conditions of those sensations and to trace them to objects which are not part of ourselves but in every case the fact that we learn is the mutual action between bodies.”

In this world of ours we are conscious of the sensation of an external, objective or crude-subjective action by which a man or a nation or a State may be helplessly driven, impelled or urged forward to something which he did not think or contemplate even and which implies the expansion or increase of activity of the organs of action along with the corresponding contraction or decrease of quickness of the organs of perception. Similarly, we are simultaneously conscious of the sensation of an internal, non-objective or keen-subjective action by which a man or a nation or a



state may also be helplessly drawn, pulled or attracted backwards by force, as opposed to be driven or impelled, to some action which he did not think and which he did not contemplate even as before and which involves the expansion of the organs of perception together with the corresponding contraction of the organs of action. But the organs of perception and the organs of action are all composed of matter and nature always maintains a consistency in the safe ratio of the crushing strength to the bursting pressure. "It is in matter, therefore, that energy reveals and realises itself," and it is in matter that energy meets with its limitations. "Energy has no individual existence." The living world, therefore, although a more complex phenomena, still follows exactly the same laws as the material system but in the inverse order or moved round up-side down and the human society which is only a part of the living world or a partial system is a conservative one.

In India, the idea of conservatism could be traced as far back as the days of the Upanishadas and even earlier in the Vedas. It is the same idea of conservatism that we meet with in the writings of the Swiss Naturalist Charles Bonnet (1720-1793). Bonnet said that "the growth of an organic being is simply a process of enlargement as a particle of dry gelatine may be swelled up by the intussusception of water; its death is a shrinkage, such as the swelled jelly may undergo on desiccation. Nothing really new is produced in the living world but the germs which develop have existed since the beginning of things; and nothing really dies, but, when what we call death takes place, the living thing shrinks back into its germ-state." "The characteristics of a conservative

system are that its initial and final positions are the same although it might have undergone any series of changes during the transit, that the whole work done by external agents on the system is equal to the whole work done by the system in overcoming external forces and that the total energy of the system is constant."

*Knowledge, Gravitation and Friction*—A joint and composite demand and supply: Broadly speaking there are two courses open to a man in this world of ours viz., the path of actions and the path of knowledge. But action implies ideas, ideas contemplate knowledge and knowledge in its turn implies action. So there is evidently a complete cycle of actions, ideas and knowledge. There is quite a variety of actions, a variety of ideas and a variety of knowledge. All these different varieties of actions, ideas and knowledge are inter-related and they are only the different routes placed in contiguity as the parts of a composition along which the different sections of the human society move by means of continuous cycles in the same identical manner between certain fixed and definite forward and backward limits so that they can by their rotatory and oscillatory motions become finally polarised, united into one, and throw light on the source out of which the creation came into existence and on the reciprocal relation between the different parts of the creation. Knowledge, therefore, is like the phenomena of joint and composite demand and supply as we meet with in our every day life. Gravitation and Friction may also be described as such.

*An Illustration:* An illustration would make the above clear. It is well-known that the rivers which have

the same evaporation origin from the surface of the ocean traverse various tracts of countries and follow straight and crooked courses before they ultimately fall to the sea. It is also well-known that while some of the rivers take a straight course to the sea, the others are crooked. The straightness or the crookedness of the rivers depends upon the lay-out or the disposition of the countries through which they run. If a water channel were made artificially to take a straight course with a slope which is greater than what is suitable to the natural disposition of the country, the banks would be cut away on one side or the other by the high velocity of the current, making the loss by diluvium on one side to be equal to the gain by alluvium on the other, until the course of the river became so crooked and its length so much increased that the slope and consequently the velocity was reduced to the limit at which cutting would cease. If on the other hand if a water channel were made artificially to take a crooked course with a slope which is less than what is adequate to the natural disposition, cutting would begin as before and this would go on until equilibrium was attained. The cutting that takes place, then, is simply the effect of introducing artificialities in our work in violation of the laws of Nature by restraining the streams from performing their rotatory motions and thereby preventing them from satisfying the natural conditions of gravity and friction.

The principle that underlies the cutting is also evident—it is an attempt on the part of Nature to restore equilibrium and to disclose the truth. The symptoms of a disease are only the external manifestations of the attempt on the part of Nature to bring to light the nature of the

malady and to carry the system on back to the normal condition. The occurrences of a storm, a cyclone or an earthquake are also well-known examples. But this is only one aspect of the question, namely, the aspect of re-action. The other side of the picture, that is to say, the disturbance in the interior of the earth causing an earthquake or the difference of temperatures giving rise to a cyclone, is the action. This is the relative state of affairs which we see as the cycle progresses. The position in the living world is exactly the same as that in the material system with the difference that the mode of manipulation in one as regards stability is the converse of what it is in the other and this is plainly on account of the inverse relation that is seen to subsist between the two.

*The State of Nature—A State of Stress,—A War is a joint and composite supply, Perpetual War and perpetual peace are both inconceivable: "The State of Nature" assumed Hobbes "was a state of perpetual war." "Kant also visualized the State of Nature as a State of War." A War is apparently a hostile contest between nations or states, carried on by force, either for defence or for revenging insults and redressing wrongs, for the extension of commerce or acquisition of territories, or for obtaining and establishing the superiority and dominion of one over the other. A War, therefore, conveys the idea of enmity or animosity between different Sovereign Governments or different systems of Government, the motive of each being the attainment of his own end. But this is only one aspect of the question. Further, in the state of nature we are concerned with two main partial reciprocal systems which are kept together or*



maintained by never-ceasing cycles of operations along with unceasing changes in its constituents but with the eternal existence of consistency in the relations of the different parts to the whole and to one another maintaining their identities and perpetuities by the actions and the reactions of the component parts. The position of the material System may look like one of enmity or animosity but a little consideration will show that it works also for promoting the welfare of the other systems whose interest it has got to safe-guard by the willing transfer of the energy it possesses. It would, therefore, be evidently in-appropriate to describe the state of nature as a whole, as a state of war. It is only a hyperbolical representation or an amplification of things beyond the truth. The idea would be better expressed if following late Professor Rankine, the state of nature is described as a state of perpetual stress which puts forward the principle of duality by denoting the double aspect of the presence and absence of enmity or animosity, of the reciprocal forces of repulsion and attraction in each of the two systems and between the systems themselves, and of creating a cataclysm which causes a sweeping and overwhelming calamity common to all to effect a closer contact between the component parts of the living world by telling the truth and restoring stability to the systems which are subjected to continual restless and fretful displacements. A war which tends to separate the parts from one another as well as from the origin is a joint and composite supply, given as a crude-subjective action to start with causing the system to roll forward, becoming gradually minimised in violence with the enfeeblement of the frowardness of feelings by the restraining and limiting actions of time and space as well as by the

operations of the two-fold knowledge of conscience and reason disclosing the truth and leading the order backward on to the reciprocal condition of peace keeping the Universe alive as it is. A state of perpetual war or of perpetual peace are both contrary to any experience and are inconceivable. (Cf. स्थितार्थं मनसः पूर्वं स्थूलरूपं विचिन्तयेत्—It is the gross or the crude material that helps us to settle our mind and to catch hold of the truth).

*The Material System—the Metonic and the Platonic Cycles :* In the Metonic cycles the phases of the moon repeat themselves on the same identical days as they did 19 years previously.

The cycle of the sun is the period of 28 years at the expiration of which time the Sunday letters recur and proceed in the same order as they did before.

The Platonic cycle or the Great year is that space of time which elapses before all the stars and the constellations return to any given state. This period of time as calculated by the Sweedish Astronomer Tycho Brahe (1546-1601) is 25816 years. This figure according to Riccioli is 25920 years. In the material world, we see therefore, that the periods of time which elapse in completing the cycles can be estimated and this gives an idea of the nature of motion and of the beginning and the end of the process of change occurring at intervals of the estimated periods.

*The living World—the cycles of Human Societies—*  
 "The Atharva Veda", "Surjya Sidhanta",\* "Manu-

\* "गतं ते अयुतं द्वायनाब्देयुगे विणि चत्वारि कल्पाः"—अथर्ववेद ।

"तद्वादश सहस्राणि—चतुर्युगमुदाहृत ।"

"युगानां सप्तति सैका मन्वन्तरमिहोच्यते ।"—सूर्यसिद्धान्त ।

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*samhita*”\* and “Einstein’s theory of relativity”: The human system—the concord through all the strings and which overlays and overspreads all—stands on an exactly the same footing in so far as this aspect of the question is concerned. The period of time at the expiration of which the phases of the human world and the successive phenomenal course of events would repeat themselves, as given in the Atharva Veda,—the last of the four Vedas—is a double kalpa or a period of  $864 \times 10^7$  solar years. (Cf.—ब्रह्मदिन and ब्रह्मरात्रि—the duration of the forward and the backward portions of the journey). The number of Solar years as given under this head in “*Surjya Sidhanta*”—the well-known work on Hindu Astronomy—is  $858.816 \times 10^7$ , showing a set-off of 0.6 per cent from what was given in the “Atharva Veda”. The beginning and the end of this period in the continuity of the creation was conceived as the beginning and the end of the process of change and was also conceived as the point of equilibrium or the point of rest. It is this idea of rest or of equilibrium that we come across in the Rig-Veda (10th Mandala) the earliest available record in India. It was this idea that was propounded in the “Sankhya Philosophy of Kapila.” It was this idea that was developed by the Greek Philosopher Pythagoras (570-504 B.C.) and it was this idea that was so beautifully expressed in England in the 17th Century by the English poet John Dryden (1631-1700) in his “The Ode to St. Cecilia’s Day.”

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“यत् प्राग् द्वादश सहस्रमुदितं दैविकं युगं ।

तदेकं सप्तति गुणं मन्वन्तरं सिद्ध्यति ॥”—मनुसंहिता ।

“From harmony, from heavenly harmony  
The universal frame began;  
From harmony to harmony  
Thro’ all the compass of the notes it ran,  
The diapason closing full in man.”

The figure, indeed, is a very big one but still it indicates finality against infinity and as such is in keeping with the conclusion derived from the Theory of Relativity of the well-known German Scientist Albert Einstein in connection with his researches about the material world. Experience also shows that the motions of the material and the living systems which are returnable in character are neither the one and the same operation of perpetual rest nor an infinite series of variable operations passing from one state to another for all times irrespective of identities and perpetuities but the movements compose and constitute a finite and conservative series repeating their cycles of operations and assuming critical or limiting positions at regular intervals of time by continuous displacements maintaining their identities and perpetuities and this clearly indicates that the motions are under a mechanical constraint or skill under the influence of which no point could go off to infinity. The motions, indeed, are very complicated and the constraining mechanism is similar to what would be obtained by the combination of a number of cams in textile, printing and other machineries. This has an important bearing on the hypothesis of peace and it would be noticed again in another portion of the work.

*Mutual Contract*—Thomas Hobbes and Hugo Grotius: The second stage of Hobbes’ conception was that “in that state the life of man was consequently soli-



tary, poor, nasty, brutish and short and from that intolerable condition man had painfully escaped by means of a 'mutual contract'. It was the same conception that was laid down by the English lawyer Hugo Grotius (1583-1645) who said that "By contract the members emerged from the state of nature wherein they had wandered about in the world as individuals." Rousseau entertained the opposite idea and he was of opinion that—"it was a golden age from which man had progressively degenerated." The conception of Hugo Grotius is contrary to any experience: man is proverbially known to be a social being; even those whom we call lower animals live in groups or companies; birds of the same feathers flock together. Hobbes' conception, it would be observed, was only a precursor or fore-runner of the evolution theory of Charles Darwin (1809-1898) in the 19th Century. Whatever it may be, the fact remains that in every state of development the sum total of all the energies which exist in the human system—the physical, intellectual and moral—is constant. Any increase or decrease in the value of any one of the three items would be followed by a corresponding decrease or increase in the values of the one or of the other or of the both of the remaining quantities so that the sum total of all the three remains the same, subject of course, to the condition of keeping the variations confined within certain fixed and definite limits, according to the law of increasing and diminishing return consistently with the nature's work of maintaining the identity and the perpetuity of the creation.

There has, of course, been a good deal of scientific or intellectual improvement during the last few centuries.

But this is not without its attendant evils. The function of science is to control the powerful forces of nature and to apply them to the useful purposes of men. The total utility or the usefulness of a thing cannot go on increasing indefinitely. There is a point at which nature ceases to respond and it follows the law of diminishing return. This is what we see in every sphere of life. The position to which scientific discoveries have reached only shows that nature has ceased to respond, it does not promote the end or the object in view and it only follows the law of diminishing return.

This is an warning on the part of nature not to pursue it further ignoring spiritual culture. Proceeding further without paying due regard to the nature's warning can only involve in-utility and wasting away in so far as the present requirements of the human society are concerned but nature will continue in its own policy of conservatism to keep the sum total of all the energies the same and in bringing the system back to the original condition. In this connection if we would only take into account the physical and the moral aspects of the human societies along with the intellectual one we will readily appreciate wherein the truth lies. Further, there must exist a difference of level, or a difference of temperature or a difference of potential if water, heat or electricity is to flow from one body to another in the material order of things. This is evenly conformable to the human society (nay, to the whole living world) but the difference consists in the fact that the capabilities of the two systems with reference to the gain or loss of heat and level are turned round in contrary directions. This difference is absolutely necessary to bring

about unceasing changes in the component parts. If the human society was to improve or degenerate by mutual or reciprocal contract with one another all the units of that system could not have been in the same stage of development. So the hypothesis that all the units of the human system were in the same condition and there had been an all round improvement or an all round deterioration as conceived by the two well known philosophers was inequitable and in-conceivable. It was only a superficial, imaginary and one-sided view of the whole state of affairs. "Neither the records of history nor the contemporary observation of backward races, when carefully studied, give any support to the doctrine that man is on the whole harder and harsher than he was; or that he was ever more willing than he is now to sacrifice his own happiness for the benefit of others in cases where custom and law have left him free to choose his own course"—"dreams of a past or of the present golden age are no doubt captivating but misleading."—Marshall's *Economies*—pages 6-7.

*Nature—Its Invariability.* The law of increasing and decreasing Returns: The next stage of Hobbes' conception was that "from relapse into that brutish condition the Sovereign must protect the subjects who to that end have endowed him with absolute power——". A conservative system might have undergone any series of changes but the deviations, departures or dis-placements to which it had been subjected during the transit were sure to be followed by corresponding reversions or relapses into the same original state whatever the absolute value of that state might be. This is the inevitable and immutable law of nature and this is the reason why the utility or the

inutility of a thing cannot go on increasing indefinitely. There is a limit at which nature ceases to respond for the two tendencies towards increasing and diminishing returns press constantly against each other and the tendencies of motion and of rest of the two main partial systems with reference to the centres of force are also reciprocal to one another. The sovereigns and the subjects are alike under the control of the same unchangeable law and it is a matter of common experience that it is by these deviations, departures or displacements and reversions or relapses, ups and downs, rises and downfalls that the human societies move along the cycles till the absolute condition is reached and the value or the characteristic of that standard or absolute condition is not quite unknown to us. The sameness of the initial and of the final positions of a conservative system with relative differences in the intermediate stages can only point out the cycles or the revolutions in which the same course begins again in a round of years or a period of time or in which the same series of events recur everlastingly in precisely the same order.

*The Idea of Contract: Contract or Love?—*

The fourth point that was raised by Hobbes was the question of contract when he said that "under the terms of that contract the individual citizens had agreed to confer supreme and unlimited authority upon the Sovereign." The question that naturally arises in this connection is whether it was contract or love on the basis of which the individual citizens had agreed to confer supreme and unlimited authority upon the Sovereign. From what we know and from what we still see of the primitive human societies it seems only reasonable to conclude that it was the force of love rather than of

contract which was at the root of the state of affairs. But in course of times the situation underwent changes. The parties in possession of the power began to think more of themselves rather than the people and with the idea of keeping the power for themselves and for their families and for ever began to introduce artificialities into the system giving rise to the ideas of contract.

Both Hobbes and Grotius were of opinion that contract should be the basis for the promulgation of international peace in Europe. Legally considered, contract assumes the existence of a powerful third party to enforce it in case any disagreement happens to arise. So contract although "it involves the idea of right, of justice and always of obligation, and good faith," in so far as the parties themselves are concerned as suggested by Grotius—it also at the same time involves the idea of subordination to the powerful third party. This being the case, if the ideas of contract could be given effect to in political situation, it would mean the creation of a powerful third party entailing sacrifice of power on the part of the Nation-States and placing themselves in positions of subserviance. A contract is an agreement for the specific performance of a certain action and it must be for a consideration unless it is made under seal. A contract involves the idea of contraction or shrinkage. A contract, therefore, is possible only so long as there is mutual exchange of interests or pressure of circumstances. A contract cannot be for impossible purposes and if so it can only lead to a breach of contract.

Willing sacrifice or transfer of power on the part of a Nation-State having an independent existence especially in the case of the stronger powers by putting a restraint on



one's own self and placing himself in a position of subserviance is an impossible idea and if brought about by force or by inducement it can continue only for a limited period of time. So the conception of contract, willing forced or induced as an instrument for securing universal and perpetual international peace or lasting world-peace even is inconceivable. Germany, Japan and Italy—known as the axis powers—were the members of the League of Nations under the terms of the Locarno Pact but they all withdrew about the middle of the last decade. They remained as members only so long as they were compelled by the exigencies of circumstances created by the World War of 1914-18. The idea of peace was the motive of action underlying the idea of contract as suggested by the two eminent men but a consideration of the frame of the human mind would prove it to be a fact that a party in possession of power would think more of that power rather than of peace.

Hobbes' intention was, indeed, plausible but his idea of contract was in disregard of the laws of nature and it stood the risk of being interpreted as an instance of his philosophy of "maintaining the propriety of making use of bad means to procure a good end as in his own illustration of readily laying hold of the cloven foot of the devil to get out of the pit."

*Lessons from Economics—The Point of Contact:* Economics also teaches us that the interest of the monopolist attains its true maximum value at the point where the "monopoly revenue curves" derived from the demand and the supply curves touches the reasonably corresponding "Constant revenue Curve" and is measured by the ordinate at the point of contact."

It is the point of contact which determines the "maximum monopoly revenue" that is to say if the maximum monopoly revenue is to be obtained there must be close union between the monopolists and the consumers. Similarly, if a Sovereign or a ruling power is to obtain the maximum of benefit there must exist a close union between the Sovereign and the people and also between two different Sovereigns. The point of contact is a very important point and is the point of love.

*Lessons from Chemistry — Chemical Affinity. Chemical affinity or Functional disposition?*—Further in the material world the force of chemical affinity or attraction is a known force of nature. It is in virtue of this force that different or dissimilar atoms cling together to form a compound. If this force were absent there would be no such thing as a compound substance or in other words if dis-similar (or similar?) substances are to unite to form a compound there must exist the force of affinity or attraction.

The same question of chemical affinity would also come into view when we have got to deal with the human societies. With an eye to the relations between the Sovereigns and the people as well as between one Sovereign and another and also having regard to the question of similarity (or dis-similarity?) the following cases would be seen to present themselves for consideration :—

- (1) When the Sovereign and the people belong to the same religion and live in the same country and under the the same conditions.
- (2) When the Sovereign and the people belong to

different religions and live in the same country and under the same conditions.

- (3) When the sovereign and the people belong to the different religions and live in different countries and under different conditions.
- (4) When the different Sovereigns belong to the same or different religions and live in different countries and under different conditions.

In all these cases so long as love or affinity prevails there is a natural combination just as we have noted above. In such a case the parties are mutually interdependent on each other. There is sacrifice on the part of one for the benefit of the others and consequently no trouble arises at all. As soon as love or affinity disappears there comes in the question of artificialities or contract and trouble begins to make its appearance and the history of the world, it will transpire, is an evidence in support of the truth.

*The Treaty of Utrecht-project of the Abbe-De-Saint Pierre—"The dreams of an honest man":* The Project of the Abbe-De-Saint Pierre (1658-1743) came to being in the year 1713 after the termination of the Wars of Louis XIV by the Treaty of Utrecht. His idea was to make peace perpetual and his suggestions with that end in view were that "The twenty four states of Christian Europe were to form a permanent Grand Alliance or European Union. The Sovereigns were to have full and lasting security for the preservation of their persons, for the preservation of their states, complete, such as they are in actual possession of, and

security for the lasting preservation of their posterity on the throne, inspite of conspiracy, sedition<sup>2</sup> and revolts of their subjects." The Scheme was only an elucidation of the Great Design of Henry IV and as such it rested, like its predecessor on the ideas of contract and voluntary transfer of power. The comment of Frederick the Great was characteristic. "The Abbe-De-Saint Pierre has sent me an excellent treatise on the means of restoring peace to all Europe and on the manner of preserving it continually. The thing is exceedingly practical, nor is anything wanting for its accomplishment except the consent of all Europe and some other such trifles." Not dis-similar was that of Cardinal Fleury who is said to have observed:—"Admirable! sake for one omission; I find no provision for sending missionaries to convert the hearts of princes." There is much to think in these remarks. Here we have got to deal with the most impregnable fort of nature to thrust the sword in easily. Perpetual peace is impossible, but Nature itself always acts as the 'cicerone' to explicate the castle and to lead us on to the position where we could get the maximum of peace and security and yet at the same time the universe is kept alive as it is. Cardinal De Bois' described the writings of the Abbe-De-Saint Pierre "as the dreams of an honest man." Really so. Any attempt to build the edifice of lasting World Peace entirely on the foundation of "the ordinary diplomatic obligations of a contract alone", or on any other substitute in disregard of the laws of creation involving impropriety in the adjustment of Power and Resistance is simply uselessly striving against an insuperable opposition and it can only end in disappointment.

The ideas of contract and voluntary transfer of power were the pivots or the turning points on which rested all the projects of peace that we have so far discussed, and we are now entering into a new stage of evolution in the solution of the problem of universal and perpetual international peace in Europe.

*An Illusion*—“*The Vedanta Philosophy*”: Standing on the brink of an Ocean at day dawn one sees the Sun as arising from amidst the waves. But the Sun is somewhere else—far above in the sky. The two are reciprocally located. What one sees is only an illusion. The two aspects of an illusion are absorption and dispersion. The former conceals the real position of the Sun and the latter transfers it to the waves below. (Cf. Sanskrit—माया, अविवेक, आवरण and विक्षेप—“*The Vedanta Philosophy*”).

*Revolution—Rousseau*: It was about the middle of the 18th Century that the French Philosopher Jean Jacques Rousseau (1712-1778) in publishing a new edition of the Abbe's Project in 1761 said that the acceptance of the scheme of the Abbe-De-Saint Pierre “could only have been carried out by violent means which would have staggered humanity. There is no prospect of Federation Leagues being established otherwise than by revolutions, and on this assumption which of us would venture to say whether the European League is more to be desired or feared? It might perhaps do more harm at a single stroke than it could prevent for centuries”. “Rousseau's warning was not superfluous.”

Violent means would, indeed, stagger humanity, violent means are, indeed, more to be feared rather than



desired. Violent means, indeed, could do more harm at a single stroke than it could prevent for centuries. But the pertinent question that arises in this connection is whether it would be possible for any revolution—crude or keen—to secure the desired end—perpetual peace? which we have seen before, is an impossible idea.

Starting from the English or the Glorious Revolution of 1688 in which the British people revolted against King James II lest he would restore Catholicism in England, up to the present non-violent Indian Revolution of 1919 and later, by which India is endeavouring to have a change in her political constitution and to win complete independence, the world has seen at least a dozen of unwrought revolutions in a period of about two and half centuries. The Reign of Terror in France that is the period in the French Revolution between the fall of the Girondists and the overthrow of Robespierre lasting for a period of 420 days from 31st May, 1793 to 27th July, 1794 and Prince Von Bismark's "Blood and Iron" are not unknown to the world. But has the desired end been attained? The history of the world up to the present time is known to us which will show that Rousseau's hypothesis was not based on any observed facts and it was evidently in conflict with subsequent experiences. The idea of securing lasting world-peace merely by means of unwrought revolutions alone was only an illusion, or a deceptive conception. The two reciprocal forces of repulsion and attraction are co-existent and always go together in nature. In nature we have always got to deal with motion braked up. Rousseau's suggestion, therefore, was nothing more than an ill-conceived contradiction of the chimerical presence of water in a mirage, or an ill-affected admission of the

wild imagination of high relief of a hill or a mountain in a looming which arises from indistinctness of vision. Both are menacing. His hypothesis was only sentimental, and was an indication of "his restless, proud, and fretful disposition, imagining that there was a conspiracy of the men of letters against him, and that all mankind were his enemies". It is only an exaggerated and one-sided view of the state of things and it is the worst possible shift. Nature always tends to have a slow and steady motion.

*A Mirage and a Looming:* In sandy tracts in hot climates the appearance of the presence of water, where there is none, is of frequent occurrence and is only an illusion in so far as the conception of the chimerical presence of water for quenching the thirst and to have a soothing effect is concerned. This is due, as is well-known, to the presence of heat in the layers of air in contact with the hot ground. The image produced is virtual and inverted. A heated (fretful and restless) mind can only produce a mirage. If the extra heat were eliminated the illusion would disappear. A looming is the inverse of a mirage (for water is the inverse of fire) and their significance in unfolding the mystery of the creation would be taken notice of later. An illusion disappears when the truth is disclosed. The time, then, seems to be sufficiently ripe for "those pacifists who would cast out the devil of war by Beelzebub and who would not hesitate to employ force to secure peace" to cry halt and to think very seriously which way the nature is moving.

*Violent means—A Fallacious Idea:* Action is equal to the reaction. What is gained in speed is lost

in power. Nature is all powerful. The idea of attaining an object by violent means only means exposing oneself to the violent forces of nature to be brought back again to the original position and thereby getting a lesson not to resort to violent means once again. The popular conception of traversing all the distance up to the end by violent means is a fallacious one; it can only lead to dire disasters. This is the lesson that we learnt from the past wars and this is the lesson from which the peace projects originated. The inspiration of the idea of preservation from the destruction of nature is the basis and the starting point in unfolding all truth and in developing all knowledge, for God is truth and knowledge eternal and infinite. (Cf. Sanskrit—सत्यं ज्ञानमनन्तं ब्रह्म—तैत्तिरीयोपनिषत्—ब्रह्मानन्दवल्ली—a section in the यजुर्वेद ).

*“Turning the other cheek”*—a mistaken principle: On the other hand who would really think of *“Turning the other cheek”* hoping to overcome violence by obedience to the law of peace”, would do well to recall the story of the snake and the saint. A snake went to a saint and enquired from him as to how he could avoid the constant persecution to which he was subjected by men. The saint advised him to give up his habit of biting people. The snake worked accordingly to the advice but instead of getting relief he was so much harassed by troubles and punishments unjustly inflicted that his life became intolerable to him. The snake consequently went again to the saint and informed him of the state of affairs, to which the saint replied “I never asked you to give up your usual hissing sound and the threatening attitude of biting people.”

We shall have occasion to say something about non-violence later on. Non-violence has very great potentialities and can achieve miracles. The definition of non-violence as given in the Yoga Philosophy of Patanjali is that it is the quality of being absolutely non-offensive to any one either by words, actions or thoughts. The presence of that quality of non-violence in full contemplates the total abnegation of the feeling of enmity or animosity. It is only a super-incarnate state. "To secure peace by casting out the devil of War by Beelzebub or to overcome violence by submitting to persecution by "Turning the other cheek" are both inconceivable ideas with the universe remaining as it is. The effect of "Turning the other cheek" in contravention of the law of peace would be to simply place oneself in the position of the snake that we have seen above. Reciprocity is the order of the universe. Reciprocity is the law of peace-unity-harmony. It is the 'friction of motion' that contributes to the stability of a structure.

*Utilitarianism—Jeremy Bentham and John Stuart Mill—A Fallacy:* Nature has not provided its water courses with any weirs or regulators. It is an instance of Nature's very far-sighted policy. It is on account of this omission that the formation of the alluvial plains of a country are due. It was this policy of nature that found its expression in the writings of Jeremy Bentham (1748-1832) and John Stuart Mill (1806-1873). "In the middle years of the 19th century the most popular prescription for the elimination of war was that of the Manchester School. Philosophically, the Manchester School derived from the Scottish Economist Adam Smith (1723-1790) and Jeremy Bentham, who in turn were greatly indebted to the

French Economists, the Physiocratic School, of which Quesnay and Turgo were the most distinguished disciples. Their philosophy was summarised in the formula—*Laissez—faire, Laissez—aller—let nature work.* Government should interfere as little as possible. The greatest happiness of the greatest number will be most effectively promoted by removing all restrictions upon the activities of individuals." In the proposition that was contemplated by the Manchester School the cause and the effect where both non-existent, and therefore the conclusion that was drawn that the greatest happiness of the greatest number would be most effectively promoted by removing all restrictions upon the activities of individuals, was only an inference by generalization. (Sanskrit—*'सामान्यतोद्देशानुमान'* in the Naya-Philosophy of Gautama).

As the number of positive instances bearing on the question was practically nil, the value of the inference was also the same. This being the case it would apparently be in seeming contradiction to the action of nature in connection with its rivers as we have cited above. But this is really not so. There is a difference between the two cases. As the living world and the material system occupy positions of oppositeness with reference to each other, the existence of a weir or interference by Government is a physical concomitant of the human society. "Liberty without obedience is anarchy and obedience without liberty is slavery." (William Penn). The idea of non-interference by Government is also a hypothetical state of things, because a party in possession of power would think more of that power rather than of peace or anything else and this is only in keeping with the laws of nature.



*Colonial Separation—The Manchester School and Jeremy Bentham*—A fallacy again: "The doctrine of 'laissez-faire' was applied impartially by the Manchester School. Not least wholeheartedly they applied it to the 'emancipation' of the colonies. Bentham held, as we have seen, that the retention of overseas possessions was the most fruitful source of war. "Let the European Powers 'emancipate' their colonies and they will have nothing to quarrel about." The reasons that were advanced by Bentham in support of his argument have been very clearly given in the pages of the original text and they are not reproduced here to economise space.

The doctrine, it would be observed, was in accordance with the fact that the departure of a stream in its natural condition (without weirs or regulators) from its original course on the completion of its work of land formation is a known phenomenon of nature. But the fallacy of the argument and the reasons for the failure of the doctrine would be apparant when it is considered that the motion of the human society is not the same as that of a stream in its natural condition and it is the inverse or the reciprocal relation between the two that makes the proposition impossible.

The conception of an Universal and perpetual peace is an unnatural state of affairs.

*Richard Cobden—Free Trade and Perpetual Peace.* A misconception once more: The English economist Richard Cobden (1804-1865) really believed that free trade and peace were linked together and he strenuously worked for them for nearly 20 years. Returning, then, to the question of free trade and

universal and perpetual peace it is to be observed that trade and commerce begets wealth, wealth begets pride and pride begets war. So although trade and commerce is not the direct or the immediate cause of a war still the two are linked together both by the logical and natural process of concatenation, wealth and pride (an unreasonably high opinion of one's own superiority) being the intermediate links. The poetic imagination of the Poet Laureate, Lord Alfred Tennyson (1809-1892) ".....And let the fair white-wing'd peace-maker fly ....." also failed him here.

The observation that was made by Lord Curzon as the Viceroy of India that "The East India Company began in commerce and ended in Empires", was very significant and this could only lead us to the position of impossibility in so far as the ideas of free trade and lasting world peace were concerned. Experience also showed that "upon the whole commerce had a precisely opposite effect". The final issue of shutting out commerce under the penalty of war as contemplated in the continental system of Napoleon which began on the 21st of November 1806 as well as the effectiveness of the 'Sanctions' in the covenant of the League of Nations with the stipulation of severing all trade and financial relations and of the threat of invoking the collective forces of the nations of the world against any nation or group which violated the covenant are also too well-known to the world.

The hypothesis of free trade and perpetual peace was a failure. "Disraeli's accession to power in 1874 marked the end of the Political supremacy of the Manchester School."

*Disraeli—Imperialism and Perpetual Peace—An Illusion and a Delusion:* British Imperialism dates as far back as the year 1874 when Benjamin Disraeli, Earl of Beaconsfield (1804-1881) came to power. Briefly speaking, the achievements of British Imperialism were :—

(1) "In 1875 the world was startled by the news that the British Government had purchased the 176,000 shares of the Khedive of Egypt in the Suez Canal. As a wise investment no Manchester merchant could have done better. The shares cost £4,000,000 sterling; they are now worth £50,000,000 and have paid nearly 40 p.c. per annum on the original investment."

(2) "On January 1, 1877, Queen Victoria was proclaimed Empress at Delhi in the presence of sixty-three Ruling Princes and amid the acclamations of the most brilliant assemblage ever brought together in British India. That was the beginning of a personal association of the British Crown and the Princes and peoples of India that has become closer and closer with the passage of the years."

(3) "In April 1878, at the height of the crises in Near Eastern affairs, 7000 Indian troops were ordered to embark for Malta. The enemies of Lord Beaconsfield (as he had now become) derided the order as smacking rather of transpontine melodrama than of Sober statesmanship. But there can be no question that it revealed to the world as by Flashlight the military resources upon which a non-military action could draw, and contributed powerfully to the maintenance of European peace."

(4) "Europe in Africa.—Meanwhile, partly under the impulse of European competition, partly stimulated by

the discovery of gold and diamonds in great profusion, the British resumed in Africa the advance which had been checked by their defeat and disasters in the Boer War (1880-81). Egypt was occupied by the Gladstone Government in 1882, and though the occupation was declared, with complete sincerity, to be temporary, it lasted for more than half a century. The Sudan, after much vacillation, was eventually conquered and annexed in 1898."

(5) "The Jubilee of 1897 marked not only the climax of Queen Victoria's reign, but the high water mark of Imperial sentiment."

(6) "Yet nothing has done more to secure peace for a large proportion of the human family than the extension of British influence, and the supremacy of British law. Over one-fourth of the earth's surface the British flag flies. Upon 400,000,000 British subjects is imposed the 'Pax Britannica'. Is it conceivable that a result equally substantial would have been attained by Bentham's policy of 'Emancipation' or Cobden's Ideal of Separation?"

"The peacemakers were not dismayed by the decadence of the Manchester School: nor were they affrighted by Bismarck's 'blood and iron'. On the other hand, they were, as we have said, slow to appreciate the truth that British imperialism offered the best guarantee for peace that was practicable in a war-like world."

The apprehension was not without its justification. The position to which the world has been led to by Imperialism, Nazism, Fascism, Bolshevism and communism is known to us all and any digression appears un-

necessary, but this can only prove that the materials supplied were quite inadequate and ineffective to meet the demands of lasting world peace.

*The Illustration of Rivers:* Turning back to the illustration of rivers as given before, the facts to be observed are, that as the rivers come nearer and nearer to the sea, two or more of them unite, the capacity becomes greater and greater and the work to be done in reaching the sea becomes less and less. Further, as the rivers come quite close to the sea, contact with the sea is established, the two waters get intermixed and the nature of the river becomes practically the same as that of the sea.

*Philosophers—ancient and modern—Plato and Kant:* The starting point of Plato, was God the absolute. Plato's conceptions were "that God is the maker and the matter is the substance and in God all knowledge which are mutually interdependent ultimately united. God is the measure of all things and that from God, in whom reason and being are one, proceed human reason and those ideas or laws which constitute all that can be called real in nature." This gives an idea of the state of development which this great men had attained and the position of super-eminence or the position of extreme tenuity from which he was used to look at the affairs of the human societies. He was in practical contact with the sea, but without the two waters getting intermixed. He went beyond the crude atmosphere of the earth and his ideas transcended or over-passed the bounds of ordinary human knowledge, reason or experience. But Kant on the other hand, with his idealistic philosophic flight in disregard of the laws of nature, conceived the ideas



of 'voluntary federation' and 'perpetual peace' which exist independently of any experience in so far as the creation is concerned. "Kant's essay had, we must regretfully admit, no influence whatever on contemporary events. Its publication was followed by twenty years of practically continuous war." The success of an all-pervading unnatural plan can only prove fatal to the existence of the universe.

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### CHAPTER III

**The tendency of human actions as displayed by a study of the relation between the living world and the material system with reference to war and peace from the standpoint of Hydraulics.**

*The phenomena of self-realisation—A War is the inevitable concomitant of creation: A War, as it is well known, is a hostile contest between Nations or States, carried on by force, either for defence or for revenging insults and redressing wrongs, for the extension of commerce or acquisition of territories, or for obtaining and establishing the superiority and dominion of one over the other. It is also well-known that the Nations or the States of the World are not and cannot be at any time in the same stage of development—some are small; some are great and some are greater still. But the fact remains that all are only the different parts or the partial systems of one and the same great human society. It is the idea of self-realisation that stimulates the smaller parts to strive after schismatic equality with the larger ones and it is also the same idea that incites and rouses the bigger ones to encroach upon the rights and the possessions of the smaller components to grow bigger all the more in the living world. But in the sphere of hydraulics, the fountain mingles with the stream which moves in a channel with a bigger quantity of water and flows with a continued succession of parts, the stream mingles with the river which is larger and has a more copious flow, the river then mingles with the sea and the*

sea again in its turn penetrates and gets intermixed, far-inland, with the riparian waters.

The tendency or inclination for self-realisation, therefore, is always present in the living world as well as in the material system with inert life and impulses\* and makes a stress—confiding in the continuation of motion under the influence of passion and emotion in the former and in the cessation from motion owing to the absence of the sensible effect of impression in the latter—the inevitable concomitant of creation. Here it would be apparent on approaching the question from the standpoint of the human society that while the ideas of “contract” and “voluntary federation” were conducive to the conception of self-realisation in some parts, they were at the same time in contravention of that notion in the others—for the tendencies towards increasing return press constantly against each other so that they cannot pass beyond certain limits—and as such they were doomed to destruction. “The Kellogg Pact” or the “Pact of Paris” represented, indeed, not much more than a pious aspiration; it laid down no method of procedure; it lacked any permanent organisation. “It was broadly hinted that the Europe which he wished to stabilise was a ‘Gallicized Europe,’ that the Good European was a thin veneer over the shrewd Frenchman”. “We in Europe”, it was said, ‘haven’t even a choice between our money and life: The United States wants both. She is not content to beat

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\* “ऊत्सीतस्तमप्राया अन्तःस्पर्शा विशिष्टिणः”—भागवत । “तेषाम् साधारण लक्षणमाह । ऊर्द्धस्रोत आहारसञ्चारो त्रेषाम् । तमःप्राया अन्यक्तचेतन्याः । अन्तःस्पर्शाः स्पर्धसेवजानन्ति नान्यत्, तदप्यन्तरेव न वहिः विशिष्टिणः अन्यवस्थितपरिणामादऽनेकभेदवन्तः । —श्रीधर स्नामी ।

us. She wants to buy us up'. These statements are very significant and would go to show as to how the "Kellogg Pact" and Briand's Scheme for the "United States of Europe" had had their origin in and were then very badly shaken and caused to sink unresistingly under the sway of the character impressed on them by the doctrine of self-determination. It is also evident as to how the "Sacrosanct Monroe-Doctrine" which swelled out from the principle of self-consciousness in the 19th century has to yield unhesitatingly to the constraining operations of the same cause in the twentieth. It is the same phenomena of self-realisation that manifests itself as an action in some parts and as reaction in the others leading to hostilities as a force of restraint against perpetual peace so that the Universe can continue under the pressure of the ordinary vibratory conditions of motion and the position is rendered all the more rigid and intricate by the promulgation of "Forced treaties" and "Arbitrary laws" imposing restrictions upon a defeated nation by the victorious one and causing a partial system to meet with a contraction or a drop or a fall under the impulse of the insnared dark heat of the mind.

*Peace—A Joint and Composite Demand:* Peace in human society is a joint and composite demand. It is the conjoint effect of a number of factors or it is the homogeneous intermixture of effects due to the composition of a number of conditions all taken together which tend to bring the parts nearer to one another and also nearer to the origin. It is pre-eminently a keen subjective phenomenon. It is primarily an "affaire du cœur" or an affair of the heart. It is the manifestation of an exalted mood.

*Water and Human Mind:* Water is a substance which is incompressible under forces of restraint. It is a passive substance and it can be roused to action by the application of energy. It has small cohesion. It is easily displaced and it can be made to take any shape and impression that is put to it. It can reflect images and the clearer is the water, the more perfect is the image. Water has also the quality or the characteristic of flowing with a continued succession of parts when in motion as well as of moving tense and asquint to fit itself up to local proclivities, although the different particles which lie scattered all over the surface of the globe always have the one and the same in-wrought tendency of seeking a common meeting-ground. ( "चतुर्कुटिल-नाना-पञ्चुषाम् दृष्टानि कीदृशास्तमसि पयसासर्णव इव ") On being cooled down to a certain temperature water suddenly expands. The human mind possesses all these attributes and the natural conclusion which the consideration of the co-incidence would lead to is that the mind is also a liquid substance like water. But the laws of its actions are much more complex and less definitely known than those in the case of water. Those laws become the less and less complex and also became the more and more definitely known as the mind can be freed and eliminated, the more and more, from the ripples and the waves and from the dirty materials brought into existence by the action of "Raja & Tama". This aspect of the question was discussed in the "Yoga Philosophy of Patanjali". However leaving aside for the present the Psychological discussions bearing on this particular point an attempt would be made to show in what follows that the ultimate tendency of human actions on attaining the common meeting-ground is the



same as that of water flowing in an open channel with a given discharge when the surface slope is approximately parallel to the bed and corresponds to "the pre-eminently maximum monopoly interest" in the field of Economics.

*An open Water-Channel with a given discharge when its surface slope is approximately parallel to the bed:* In connection with water channels the simplest possible problem that we have got to tackle or deal with is that in which the motion of the water takes place in an open channel of uniform cross section with a given discharge under the influence of the two opposing forces of gravity and friction producing practical surface parallelism and implying that the two forces are well-nigh equal in magnitude and opposite in direction on the restoration of "Steady motion" (Cf. the parallelism of the earth's axis and the effects produced thereby). But when the flowing water meets with any obstruction or encounters a drop or a fall the phenomena gets very much complicated entailing deviation from the surface parallelism and the attainment of "steady motion" implies the application of the second part of the Principle of the conservation of energy, viz., that the whole work done by external agents on the system is equal to the whole work done by the system in overcoming external forces, as a necessary condition for the state of affairs that prevails.

It is the smallness of cohesion involving the quality of being easily displaced which makes it necessary that both water and the human mind should always be, whether at rest or in motion, under forces of restraint in all directions if they have got to serve any useful purpose, and these forces of restraint along with the frowardness of feelings acting in opposition should be

uniform in character, if lasting world-peace is to be attained, just as the uniformity in the forces of cohesion, gravity and friction is the necessary antecedent for securing steady motion and the surface parallelism in the water flowing in a channel. The frowardness of feelings is the force of restraint against perpetual peace, just as friction is the force of restraint against perpetual motion. These forces of restraint are absolutely necessary for the existence of the Universe and so they cannot be entirely eliminated but both of them can be carried down to very small limits.

In India the idea that was incorporated into the Hindu scriptures was that the spirit of endurance could lead to salvation. The English expression "Want of Restraint" and the 'Tama' of the Hindu Philosophers are synonymous and convey the same idea. It is the immediate, invariable and unconditional antecedent of a War or a rude revolution. The spirit of self-restraint (and not unrestrained self-realization or self-assertion which can only pass on to war) occupies a very prominent place in the literature of peace. It was this spirit of self-restraint which led the Great Emperor Henry IV of France to issue the Edict of Nantes. It was this spirit of self-restraint which was the characteristic feature of the reign of Queen Victoria. History recorded the high water mark of this spirit of self-restraint on the part of Great Britain when the British Premier, the Right Honourable William Ewart Gladstone (1809-1898) paid a compensation of £325,0000 to America in connection with the settlement of the Alabama Claims. This force of restraint is the discriminating factor which always acts in opposition to the tendencies of mutable motion and of rest in this

universe, for the expansion and exposition of the two-fold knowledge of conscience and reason and of the Self as well as for unfolding the captivating snare by which we are entangled and brought to trouble, and it cannot cease to exist at any time.

The condition or the circumstance which gives rise to the force of restraint is a variable factor as well in different men at the same time and also in the same man at different periods of time and this is only in consequence of the difference in their relative positions in the circuit with reference to the centre of force. The efficacy of the force of self-restraint varies directly as the spiritual strength which produces it and when it falls below the safe limit due to decrease of spiritual knowledge or illumination with a corresponding increase in material craving, a war or a crude revolution is the consequence. The effect that follows the series of actions depending upon the oscillatory movements of the system at this stage is, of necessity, again overturned by the entrapped dark heat of the mind of the different partial systems constantly pressing against each other and putting restraints on self-realisation, and the comparative relations of the several parts are restored as before. This is only the visible outward display of the active principle of creation ("क्रियाशील रजः") and Nature itself—the metonymy of the effect for the cause—reacts as the guide to adjust the illusory sights and the curiosities by contrast in passing and to lead us on to the position of maximum peace and security by satisfying the novelties of the passions and keeping the universe alive as it is. (Cf. the position as regards supply and monopoly in Economics).

*The phenomena of mutual attraction and repulsion in Hydraulics, Drop or Depression:* The most important

point that is to be observed in connection with the discharge of water over a weir is the "drop" or "depression" which the water undergoes when flowing over it. It is due to the force of repulsion that is generated in the water by the reaction which succeeds the action. This is equally true of the human mind when passing over an obstruction and it confirms the view that the action of the human mind is the same as that of water, but the difference will come in when the change of level occurs.

*The phenomena of a sluice discharge with the tides varying behind and the International Law:* In the whole system of created things in this Universe the Law prevails that the deviations, departures, or displacements to which any part of the system had been subjected are sure to be followed by corresponding reversions or relapses, ups by downs, rises by downfalls, and the waters of the Sea are likewise subject to the same immutable conditions giving rise to what we called the tides.

The phenomena as described later on under head 'contract and contration' in respect of the human society are analogous to the phenomena of a sluice discharge with the tides varying behind, gradually transforming it from the condition of free flow, through the intermediate stage of partial drowning, to an entirely drowned or completely submerged one and endangering the safety of the sluice by crushing, scouring and blowing up, and the effects thus produced as well as those which we shall have occasion to see subsequently in connection with "a drop or a fall" are reciprocal to one another.

A sluice, as is well-known, is a device or a contrivance for controlling, that is to say, for retaining, excluding and regulating the flow between two different

partial systems of water with reference to the requirements of the time with the object of obtaining the most efficient and useful work, and the rules and the principles of physics that govern the stability of the sluice under the noted conditions would be seen to extend their applications, but acting in vicissitude, to the mutual or reciprocal actions between two different parts of the human system in the management of the administrative machineries of the States in connection with the development of social and diplomatic relations or in the art of State-craft in carrying on negotiations or transactions of business between Nations, and to surpass the limitation that the quantities in the human system corresponding to those in the hydraulic formulæ are incapable of direct measurement in the present state of our knowledge. Then again, the similarities in external actions taken along with the dissimilarities in the internal functional dispositions of the two systems as given above would also furnish the necessary materials for proving the question of resemblance and difference between them.

The rules and the principles of physics in the material world in the manipulation of the flow of water took their shape in the human system in the art of State-craft in the form of International Law as conceived by Grotius and referred to by Kant. These rules and the principles of physics in hydraulics have been found to be perfectly effective in the evolution of a scheme in showing the true and the just course for securing the stability of the sluice with the reasonable expenditure of money, but the conception of the idea of International Law has failed in its object in pointing out an orderly direction in the restoration of firmness,



steadiness and consistency to the human system, and this is simply on account of the omission to reduce the 'heads' or to remove the very wide differences—the existing flagitious "relative inequalities" between the strengths and the resources of the states as well as between individuals or citizens—to the lowest possible limits by uplifting the smaller and the weaker components to satisfy their tendencies to grow up to have a closer contact with the bigger and the stronger ones in obedience to the laws of nature. Therein lies the deficiency or want of adequate power of the International Law and herein comes in the necessity for propounding in addition some thing more cogent, something more powerful and forcible in action, something real and more enduring in character, to make up for the dismal and painful inefficiency and insufficiency of diplomatic relations and of the International Law, and we shall have occasion to return to the discussions of this aspect of the question later on again.

*The stability of the sluice and the steady and the peaceful development of the Administrative Machineries of Government:* The position of the sluice alone with an eye to its stability under the influence of the conditions noted above and the steady and the peaceful development of the administrative machineries in the human system without the aid of some suitable force are very critical ones, as they are alike subject to actions and reactions producing very great shocks and vibrations causing the structures to collapse.

The prophylactic or the preventive against the recurrence of such a disaster is the erection of a breast-wall up-stream in front of the vents in the case of the sluice. The corresponding factor which suggests itself

at first sight in the case of the human society is the armament, as they both convey the conceptions of protection. But although the effect of the measure adopted for inclosing the stability of the former can completely continue in time that in the other case is only transitory. Armament has also its other defects. These deformities together with the durable and the conformable conditions of strength in the human system would be noticed and dealt with later on again as before.

*A 'study' of the Laws of Creation—The 'Index-Value' in Hydraulics:* A study of the discharge conditions in Hydraulics would show that the ratio of the area of discharge to the cross-sectional area of the channel as modified by the resistance or the obstruction met with serves as an 'index or exponent' for the determination of the progress that could be made and as the 'index-value' increases in magnitude from zero to unity, the factor allowing for the effect of the velocity of approach varies in magnitude from unity to infinity and in this connection the two extreme cases present themselves for examination at the outset, namely,—

(I) *The position of cōncord of the forces of Power and Resistance:* If it is supposed that the amount of external work done is nil as compared with the capacity, then it involves the supposition that the position is one in which the power is encircled or enveloped by an infinite number of concordant forces of resistance on all sides, with the power and the resistance both looking inwards in the same direction, and implying evidently the concord of an infinite power endowed with infinite energy and also indued with the tendency of infinite egoism or self-consciousness, infinite rapidity or velo-

city of motion in infinite space for infinite time for making infinite progress, or the existence of infinite potentialities all maintained and kept together in a latent or lurking state, involving the consequence of bringing the system to a stationary condition or to only one state of perpetual rest precluding the possibility of its identity and perpetuity in violation of the principle of the Conservation of Energy and necessitating the dissolution or the destruction of the present system which is an impossible idea.

(II) *The position of discord of the forces of Power and Resistance:* If on the other hand it is supposed that the quantity of external work done is equal to the capacity, then it implies the suggestion that the situation is one in which there would be a complete discord of all the forces with the Power and the infinitely small Resistance both looking outwards in the same direction, and would bring to light the representation of a discordant infinite power endowed with infinite energy, having infinite rapidity or velocity of motion in infinite space for infinite time, making infinite progress under the impulse of infinite egoism or self-consciousness producing and causing to exist a state of perpetual war, entailing the consequence of an infinite series of variable operations continually passing from one state to another for all times in violation of the principle of the Conservation of Energy, and putting a stop to the identity and the perpetuity of the present Universe, and meaning clearly the destruction of the present system which is also an impossible idea as before.

These are the two extreme hypothetical cases which do not exist in this universe and we have got to deal with power and resistance which move along in a

cycle with continuous and uninterrupted changes of magnitude and position between two fixed and definite forward and backward critical limits (the head and the tail levels) in a regularly recurring and rhythmically vibratory motions or with a regular succession of remissions and percussions in such a way that there might be a small deviation on either side from the positions of equality and oppositeness of the forces of power and resistance, and that the maximum amount of work or mechanical effect that can be obtained even under the most favourable conditions is less than one-fourth of the absorbed power.

*The point of concentration of the forces of Power:*  
In the position of concord of the forces of Power in (I) above the force of egoism or the phenomena of self-realization is also in concord, that is to say, it lies in a latent or lurking state helping to produce and causing to exist a series of infinite shades of fineness or tenuity-purity-simplicity-freedom from duplicity under the pressure or influence of an infinite number of concordant forces of Resistance on all sides, augmenting the urbanity, affability, natural affinity and the congeniality of the condition. As the concordance of the forces of Resistance is broken up with a change of direction and decrease in value, the concordance of the forces of Power is also destroyed, the force of egoism and the other factors begin to make their appearance and they gradually increase in value, quite proportionately to the decrease of Resistance upto a certain extent, keeping the progress confined between certain fixed and definite limits and then leaping unexpectedly from the finite value to infinity for a very small depreciation of the Resistance, just in the same way as the tangent of an

angle appreciates abruptly from a finite value to infinity for a small increase in the angle near  $90^\circ$ .

*The point of concentration of the forces of Resistance:* In the position of discord of the forces of Resistance on the other hand in (II) above, the force of egoism or the force of self-consciousness of Power is infinitely large along with the other conjoint effects and this helps to produce and causes to exist a series of infinite shades of coarseness or roughness—passion, lust, greed, heedlessness, ruthlessness,, etc. aggravating the gravity, solemnity, want or absence of levity and the seriousness of the situation. As the discordance of the forces of Power is broken up, the concordance of the forces of Resistance comes into play and as its intensity gradually increases in value the egoism and the other elements begin to make their disappearance and they suddenly decrease in efficiency very much disproportionately to the small increase of resistance, passing from infinity to the finite value and retaining the reversion or the retrogression of progress within the same fixed and definite limits as before. This orderly disposition became necessary simply to present a restraint on the tendencies of perpetual motion and of perpetual rest of the partial systems and of the creation as a whole with the object of keeping up the identity and the perpetuity and the arrangement is suggestive of the phenomena of total external and internal reflections of light in Optics on reaching the critical stage.

As the living world and the material system can have their displacements only varying between certain fixed and definite limits maintaining their identities and perpetuities in all spaces for all times they are plainly acted



on by external forces evidently from the Origin. Further, as the systems themselves stand for action and reaction, Power and Resistance with reference to the Universe they have their equality and oppositeness representing the resemblance and the difference between them. Clearly then, they are homographic and homogenetic in character and the position of the creation under the driving and the impelling forces of power with the restraining and the regulating influences of resistance from the standpoint of the 'index-value' is the same as that which we shall have occasion to observe from the principles of Optics and Astronomy as well as from the considerations of the Periodic Law and the Theory of Involution.

*The identity and the perpetuity of the creation:* The fact is well-known that it is the periodic character of the phenomena of the creation which sustains the Universe and it is by never-ceasing cycles of operations that an identical system is carried on to perpetuity. Further, an examination of the phenomena of creation both living and non-living in this world, would prove it to be a fact that the creator with an eye to the maintenance of identity and perpetuity deviates or departs but little on either side from the positions of equality and oppositeness of the forces of power and resistance in the process of transformation, transmutation or transmigration of the component parts, in response to the truism that the smaller is the deviation or departure from the said positions, the smaller is the expenditure of energy and outturn of work and consequently the greater is the identity and also the greater is the perpetuity. This supplies us with a reason as to why the creation ceases to respond beyond a certain limit. This imposes restrictions on the conceptions of Hobbes, Grotius and Rousseau as regards the present or

the past golden age, and this would also be seen to put a limitation on the evolution theory of Charles Darwin.

*The Philosophy of Descartes and Fichte:* The Philosophy of the French Philosopher and Mathematician Rene Descartes (1596-1650) was "Cogito, ergo, sum"—I think, therefore, I exist. The German Philosopher Johann Gottlieb Fichte (1762-1814) belonged to the same school of thought as Descartes, and his philosophy was—"the 'I' or the thinking subject is the absolutely active principle which constructs the consciousness, and produces all that Exists, by position, contraposition and juxtaposition. The whole Universe in short, is the product of the 'I' or the thinking subject."

The idea that was sought to be developed in the above by the two master-minds was the conception of unity in diversity and in regarding the whole as one in the condition of 'absoluteness' which perceives all that is caused to be produced by internal perception and persuasion as well as by external classification and adaptation for the preservation of the Universe. If the "I" or the thinking subject ceases to exist, the Universe would apparently cease to exist. But the "I" cannot cease to exist. It has its identity and perpetuity and this leads us to believe that both the creator and the creation are eternal and identical with reference to time, energy and space but the conception that "I"—the inverse of the Absolute—constructs the consciousness and produces all that exists, it would appear, signifies something more than the real state of things.

*The creator and the creation—both eternal and infinite:* Here it is to be observed that the two main partial systems of the universe—the living world and the material system are fixed in magnitude, opposite in direction and

placed in contiguity as the parts of a composition or they have been kept in position, contraposition and juxtaposition as conceived by Fichte (cf. the positions of the living and the material systems in this universe), so that they by their mutual actions and reactions could maintain the identity and the perpetuity of the creation under the control from the Origin. The utter absence of constancy in the stability of the universe as displayed by the never-ceasing changes in its component parts and the eternal existence of the consistency in the relations of the different parts to the whole and to one another along with identity and perpetuity would prove it to be a fact that the Origin from whom the creation comes or the Common Progenitor from whom the series or the succession of progeny or relations descend and proceed conscience and reason is located at an infinite distance and that the creator is Infinite and Absolute, who is complete in himself, who is unconditional and who is without any restraint or limitation comprising or comprehending in Him a series of infinite shades of coarseness and also of fineness, indicating the presence of an indefinite number of concordant-discordant forces on all sides due to the existence of an indefinite number of universes of varying sizes in infinite space for infinite time making both the creator and the creation practically equal and opposite with reference to the three fundamental conceptions of time, energy and space, causing the position critical in so far as the creator and the creation are concerned and also supplying an answer to the question that was raised in the "Sankhya Philosophy" as to whether the creator is 'freed or restrained'. The never-ceasing cycles of action of the constraining mechanism in the same identical manner is also an evidence in support of the truth. Further, the information that is supplied

by the Theory of Involution and Poncelet's 'Principle of Continuity' is that the state of affairs in other universes is the same as that in which we live.

*The value or the efficacy of egoism:* The value or the efficacy of egoism in the limiting state when it is in concord in position (I) is unity, but with the reduction or the diminution of the constraining force it increases in magnitude till it attains the maximum equivalent of infinity in position (II), just in the same way as in the mathematics of conic sections the value of the eccentricity of the hyperbolic curve enlarges from unity (when the angle of the cone and the radius of the Focal sphere are both zero in the limiting position) to infinity with an increase in the angle at the apex of the cone to  $180^\circ$ —which entails a total abatement or curtailment of the forces of restraint—or else when there is an endless increase in the radius of the sphere—the sphere of motion and action—(“कर्म्मक्षेत्रं इदं विद्धि”) that is to say, the values of both the egoism and the eccentricity of the hyperbolic curve may, in theory, vary similarly between the limits of unity and infinity; the two extreme values—unity and infinity—corresponding to the said two extreme cases of concord and discord of the forces of power and resistance—signifying the non-existence of the universe or proclaiming the existence of one of the two extreme reciprocal aspects of the creator—perpetual rest or perpetual motion—without any thing else: Cf. the passages in the Rig-Veda Sanhita,—Manu Sanhita and in the Upanishads,—

“नासदासीन्न सदासीत्तदानीं नासीद्रजो न व्योमा परो यत् ।

किमावरोहः कुह कस्य शर्मन्नभः किमासीद्ब्रह्म न गभीरं ॥

• न सत्यरासीदमृतं न तर्हि न रात्रा षष्ठ आसीत् प्रकेतः ।

आनीदवातं स्वधया तदेकं तस्माद्धान्यन्न परं किं चनास ॥

तमासीत्तमसा गृह्णन्मयेऽप्रकृतं सलिलं सर्वमा इदं ।

तुच्छेनाभूपिहितं यदासीत्तपमस्तन्महिना जायतैकं ॥

कामस्तदग्रे समवर्त्तताधि मनसो रेतः प्रथमं यदासीत् ।

सती बंधुमसति निरविन्दन्द्वादि प्रतीप्या कवयो मनीषा ॥”

Rig-Veda Sanhita—Tenth Mandal.

“आसीदिदं तमोभुतमप्रज्ञातमलक्षणम् ।

अप्रतर्क्यमविज्ञेयं प्रसूतमिव सर्व्वतः ॥”

Manu-Sanhita,

“ तर्ह्यन्याकृतमासीत्...” । “...आसीदेकमेवाद्वितीयम्...” । “...आत्मा वा  
इदमेक एवाय आसीन्नान्यत् किञ्चनमिषत्—स ईक्षत लोकान् नृ सृजा इति...” ।  
“...सोऽकामयत-बहुस्यां प्रजायेयेति । इदं सर्व्वमसृजत । तत्सृष्टा तदेवानुप्राविशत्...” ।  
“...तदेतत् सत्यम् । यथा सृष्टीभात् पावकात् विस्फुलिङ्गाः सहस्रशः प्रभवन्ते, स्वर्गपाः  
तदाक्षराद् विविधाः सोम्य भावाः प्रजायन्ते तत्र चैवापि यन्ति...” ।

The Upanishadas.

*A state of perpetual war or even the nearest approach to it is inconceivable and incomprehensible: A state of perpetual motion and also a state of perpetual rest are both inconceivable with the Universe remaining as it is. But a study of the phenomena of increase in the value of egoism quite proportionately to the decrease of resistance up to a certain limit in passing from position (I) to (II), and of the sudden decrease of efficacy very much disproportionately to the small increase of resistance in moving backwards from position (II) to (I) can only bespeak that while a state of the nearest approach to perpetual peace can very well be imagined and understood, a state of perpetual war or even the nearest approach to it is incon-*



ceivable and incomprehensible, and this would give an idea of the nature of the constraining mechanism which is at work in this universe.

*A Treaty—its idea:* A treaty (leaving aside the question of treaties dealing with specific subjects and which have no relation to war) is a forced contract or a league or an agreement made between two or more nations at the conclusion of a war. The underlying idea of such a treaty is to impose restrictions upon or to bring about a contraction or a drop or a fall of the defeated nation so that it might not be in a position to assume the attitude of war later on again in the future. This is what we see in all the treaties starting from the treaty of Westphalia made on the 24th October 1648 after the expiry of the 30 years war in Germany (1618-1648) up to the treaty of Versailles concluded on the 28th of June 1919 after the world war of 1914-18.

*A contraction or a drop or a fall in a stream of given discharge—comparison of effects:* It was observed before that in connection with water channels the simplest possible problem that we have got to tackle or deal with is that in which the motion of the water takes place in an open channel of uniform cross section with a given discharge under the influence of the two opposing forces of gravity and friction producing practical surface parallelism and implying that the two forces are well-nigh equal in magnitude and opposite in direction on the restoration of steady motion. But when the flowing water meets with any obstruction or a contraction or encounters a drop or a fall, the phenomena gets very much complicated entailing deviation from surface parallelism and the attainment of steady motion implies the application of the second part of the principle of the Conservation of Energy

namely, "that the whole work done by external agents on the system" is equal to the whole work done by the system in overcoming external forces" as a necessary condition for the state of affairs that prevails.

When a stream of flowing water carrying a given discharge meets with an obstruction or a contraction in its channel the immediate consequence is the heading up of water and the production of backwater of which the surface profile, as is well-known, is a rectangular hyperbola, the same being convex and asymptotic to the straight line which represents the normal surface and lies below the curve. The depth and the sectional area increase in the direction of flow involving a corresponding decrease of velocity and it is the overflowing action of the water that is responsible for any damage that might be caused until the attainment of steady motion. But when the stream encounters a drop or a fall, the curve produced is also a rectangular hyperbola as before. It is also convex and asymptotic to the straight line which represents the normal surface but now lies above the curve indicating the absence of heading up or of backwater. The depth and the sectional area decrease in the direction of flow implying an increase of velocity and the increased velocity may be so great as to scour away the bed and the banks causing destruction until steady motion is established. With the idea of avoiding destruction it is usual to counteract the effect of a drop or a fall by the putting up of a weir on its crest. Theoretically the curve meets the normal surface at an infinite distance in both the cases, but for all practical purposes it coincides with the normal surface within a limited or measurable length.

*Contract and contraction—Declension of power and greatness without the loss of dominion:* Leaving aside

the question of a willing contract starting from the great design of Henry IV up to the League of Nations within a period of about 300 years or so it is to be observed that the two aspects of a forced contract, namely, (1) making the defeated nation slow-moving by lowering the system of education and the standard of economic life involving a state of mental stagnation and intellectual dulness, or (2) making the defeated nation quick-moving by the introduction of a new system of education and raising and uplifting the standard of economic life along with incautious utterances from statesman and then imposing restraints on self-realization, ultimately merge into one with the appearance of new elements into the field by the operation of the constraining mechanism of nature and, as the development and the gradual change from inception up to a state of full maturity of events in the history of the world up to the present time would show, that the tendency for self-realization asserts itself, declares its rights positively and exerts and brings into action its expansive force, strength and ability by assuming an overflowing, over-powering and overwhelming attitude with the idea of crushing beneath something violent which encompasses it exactly in imitation of the behaviour of a flowing stream carrying a given discharge and meeting with an obstruction and proving definitely and for ever that the conception of a forced contract alone without the help of armament as an instrument for the installation of international peace is an impossible idea, because the contract or the agreement is only an intangible something which can be easily violated and which requires an armament for its protection, or because the treaties are of no value where force could demand recognition. But as the armament is only adapted for passing through it is

simply too much to expect lasting peace with its help alone.

*The treaty of Versailles:* In Europe, Germany lost, by the treaty of Versailles, 27252 square miles and 6½ millions of population, as well as most of her iron and minerals. Abroad she ceded all her colonial possessions in Africa and the South seas, losing 1128000 square miles with a population of over 13 millions. A study of the fifteen parts will give an idea of the declension of power, greatness and dominion that Germany underwent by the said treaty.

*A drop or a fall—declension of power, greatness and dominion—an impulse for an imminent war:* With an eye to the declension of power, greatness and dominion that Germany underwent by the treaty of Versailles and the late war the truth that presents itself before us is that in the case of a nation or a state also as in the case of a stream meeting with a drop or a fall as mentioned before, the greater is the decrease of sectional area, the greater is the velocity and consequently the greater is the impulse for a war accompanied by scouring action involving violence and rapidity of motion (the violence, the velocity of motion and the enormous erosive action of water in a waterfall is a well-known phenomena of nature) as distinguished from the prevailing overwhelming operations in the case of a contraction. This might at first sight appear to be a paradox or a seeming contradiction, but yet it is true in fact. The only argument that can be advanced against this idea is the element of physical unfitness or disability which a nation or a state is brought to bear by the loss of power and dominion but the fallacy of the argument would be carried home when it is considered that the possession of greatness or

power or dominion is not the cause of a war. The cause of a war is something else—it is the “Raja” along with its reaction the “Tama” ( तमः प्राया—अव्यक्तचेतन्याः ) The greater is the magnitude of the fall the greater is the violence and rapidity of motion and the greater is the impulse for a war. It is also a fact that on being cooled down to a certain temperature water suddenly expands. But this does not say that by little or no fall the chance of a war disappears for, although the fall disappears, “the tendencies of human actions or of human conduct with the thoughts and the emotions that grow up round them under the influence of the fundamental impulses of nature” remain all the same in human society making a war the unavoidable concomitant of creation. All that it says is that the fall wrought by a “forced treaty” or “arbitrary laws” which are but the additional external manifestations of egoism under the influence of the entrapped dark heat only accentuates the situation or makes it more tense and also makes a war nearer and more impending.

*A treaty—its defects:* The underlying idea of a treaty as mentioned before is to impose restrictions upon or to bring about a contraction or a drop or a fall of the defeated nation so that it might not be in a position to assume the attitude of war later on again in the future. But the very contraction or the drop or the fall works itself out under the influence of egoism as a “secret reservation of materials for a future war” in as much as the human system is a conservative one and the law of conservatism requires that for the attainment of steady motion the whole work done by external agents on the system should be equal to the whole work done by the system in overcoming external forces.



*The Human Psychology:* Theoretically the curve of surface profile in the case of a flowing stream with a given discharge and meeting with an obstruction or a contraction or encountering a drop or a fall meets the normal surface at an infinite distance, but for all practical purposes it coincides with the normal surface within a limited or measurable length. Similarly, it is also a psychological fact that when a man or a nation undergoes any sort of declension of power, greatness or dominion, the egoism roused to action passes through a similar change and attains its theoretical maximum value of infinity, but it practically remains confined within a very narrow limited range for it also in reality, like the course of the surface profile, cannot pass beyond certain limits. This is the only means by which a man or a nation or a state can hope to get back to his former position in the cycle and the greater is the intensity of the desire for the recovery of his lost glories the quicker is the chance of his getting them back. On the other hand, a state of mental stagnation or a state of forgetfulness of his former position can have only the effect of crippling him, although only for a limited period of time. It was this idea that was expressed by Professor Max Muller when he said,—“A people that can feel no pride in the past, in its history and literature loses the mainstay of its national character. When Germany was in the very depth of its political degradation it turned to its ancient literature and drew hope for the future from the study of the past.”

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## CHAPTER IV

The tendency of human actions as displayed by a study of the relation between the living world and the material system with reference to war and peace from the stand points of Optics and Astromony.

*A study of the human system—Its equation of motion—Lessons from Economics:* The lesson that we get from economics is that the "constant revenue curves" drawn from "the number of thousand feet of material sold" and "the revenue derived therefrom" are all rectangular hyperbolas.\* The information as supplied by economics as regards the relation that subsists between these two factors, although it gives an idea of only one branch of the study of man, is still in connection with the affairs of human societies "with all the passions and the prejudices of a real man and not of a fictitious being."

*A stream of given discharge—surface slope not parallel to the bed—the standpoint of flowing water:* With an eye to the state of affairs that we had occasion to discuss before in the preceeding sections as regards the similarities between the tendencies of human actions as well as that of water in the material system and also with an eye to the lessons from economics it seems only reasonable to think that the joint effect produced by the tendencies of human actions under the influence of egoism and the resistance to it acting in opposition would be found to be always the same with reference to all the units of the entire human society when observed and examined from every possible point of view and under every possible

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\* Vide A. Marshall's Economics, Pages 479-480.

variation of circumstances, that is to say, the equation of motion is always a rectangular hyperbola.

*The Irrationality of Dispersion:* The fact is also well-known that "if the phenomena of the irrationality of dispersion in spectrum analysis had no existence then in providing a combination such that two given colours should not be separated, we should simultaneously unite lights of all species." The presence of unity of uniformity in dispersion in connection with a mirage and a looming with reference to all would, at first sight, suggest the non-existence of the phenomena of the 'irrationality of dispersion' and that the composition and the constitution of the human mind, that is to say, the materials, and the proportion of which it is made up and the system of fundamental laws, rules and principles to which it is subject, are the same for every one and also for all times. But on the other hand, there is quite a variety of diverse ideas in so far as the affairs of the human society are concerned. The difference in the ideas in different men at any instant of time as well as that in the same man at different periods of time (भिन्नरुचिर्हि लोकः—रुचीनां वैचित्र्यात्) would also lead us to think that the composition and the constitution of the human mind are variable factors with reference to individual and time giving rise to a discrepancy between this view and that which was discussed above. The one view is contradictory to the other.

*The composition and the constitution of the human mind,—the basis of vapour,—Kirchhoff's law and the "Yoga Philosophy of Patanjali":* The human mind, it was observed before, possesses all the attributes of water. The human mind is known to suffer from drop or depression, sinking or falling off of spirits as well as exalta-

tion of character and style with the variations of the constraining force and of the degree or proportion of passions and affections, but the final or the consequential result with regard to the deportment or the manner of acting in relation to the duties of life remains all the same. The human mind is also known to gratify the impulses, the taste and the appetite by yielding to the wishes of vain imagination and unreal fancies as well as by boasting and vaunting with a tatiuous and ostentatious display of worth. The fleeting and the transitory character of these actions so long a permanent set does not occur, combined along with the consideration of the particular faculty of the mind of unerringly and spontaneously doing whatever is necessary for the preservation of the individual and the continuation of the kind, even after a strain caused by being subjected to a stress, can only lead us to imagine and believe that the human mind possesses all the properties of water and its vapour, (the disease, in which a variety of strange images appear as if visssible and in which a person has a settled belief in the reality of things which have no existence, is clearly indicative of the vapourous disposition of the mind), that the mental structure and organisation has a tendency to recovery after being strained by a stress within the limits of perfect elsaticity and that the mutual relation between the constraining force, the degrees of animation in thoughts and the range of variations of stress would be represented by a rectangular hyperbolic curve, as in the case of gaseous bodies with the variations of pressure, temperature and volume, so long as the limits of perfect elasticity are not overpassed.

The conclusion, then, that the human mind consists of water with an atmosphere of a gaseous vapour when

read along with the natural law that was propounded by Kirchhoff, 88 years back in 1859, in connection with the subject matter of spectrum analysis, namely, "that if a vapour when sufficiently heated possesses the property of emitting lights of certain refrangibilities, that vapour at a lower temperature has a tendency to absorb, or refuse a passage to, light of the same refrangibilities which may be incident upon it," would account for the phenomena removing the discrepancies, and would take us on to the final position that the human mind, although it has the same composition for every one and for all times, is a medium of varying densities and has a variable constitution under the influence of temperature and pressure in different cases and that the functional dispositions or the mechanical capabilities of the two systems as regards changes of heat and light are opposed to each other. (Cf. the position of carbon with a store of energy when it burns and that of the vegetable kingdom under the influence of the sun's rays.)

Then again, the quotation as given herein from Optics\* would be found to be very interesting in leading to discussions throwing some additional light on the operations of the human mind:—

"192. For the purpose of showing the important share which the mind has in interpreting visual sensations, Prof. Wheatstone,—to whom we are indebted for the invention of the stereoscope,—has contrived a *Pseudoscope*, an instrument consisting of a pair of prisms with certain adjustments so that the image thrown upon either retina may be such as, without the intervention of the instrument, would

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\* Vide Dr. Parkinson's Optics, pages 183-184.



naturally be received by the other. If we put the action of the mind out of consideration, we should expect that everything viewed by this instrument would be turned inside out, *elevation* would become *depression* and *vice versa*;—it fact, it ought to give what Prof. Wheatstone calls the *converse of relief*. This effect, indeed, follows easily for objects whose *original* and *converted forms* are familiar to the mind,—as in a seal and its impress,—but in other cases the mind admits the converted form with greater difficulty, according as the converted form is less familiar and probable.

“ 193. It has sometimes been felt as a difficulty, that objects appear *erect*, although the image of them on the retina is *inverted*. *Erect* and *inverted* are simply terms implying *relative position*, and as our optical knowledge of *all* external objects is derived from the picture of them on the retina, there is the same *relative displacement* of all objects as regards their disposition in space. Thus whilst the picture of men of the retina exhibits them with their heads *downwards*, at the same time heavy bodies appear to fall *upwards*. The mind forms an estimate of all the relative parts of the picture simultaneously, and its relation to external objects is judged of by experience and habit.”

The explanation of the mind ‘forming an estimate of all the relative parts of the picture simultaneously, and judging its relation to external objects by experience and habit’ is obscure and inconceivable. The consideration of the real operations of the mind would preclude or shut out the possibility of the suggestion from being brought to issue and the assertion or the assumption, if accepted, nature would be found guilty of doing something in its

mission which would be calculated not to distinguish truth from falsehood. Nature's mission is always to disclose the truth and to develop knowledge.

Here it would be interesting to note that the mind acts as the attendant or as the bodyguard to the sentient soul in arranging and transmitting the impressions to and from the supreme spirit, just in the same way as the moon acts as the satellite of the Earth in reflecting the light to and from the Sun but with the relation of reciprocity between the two aspects. The popular conception of 'Yoga' ('योगश्चित्त-वृत्तिनिरोधः'—पातञ्जल दर्शन) as the total stoppage or suspension of the operations of the mind or the complete concentration of mental powers is a fallacious one. The operations of the mind, as we are conscious, consist of (1) dispersion or divergence with retardations and deflections and (2) absorption or convergence with total internal reflections. The effect of stopping or suspending entirely the action of total internal reflections (if possible) would be to aggravate the actions of retardations and deflections without limit producing perpetual motion and entailing cessation from retrogressive motion in the cycle of operations by which an identical system is carried on to perpetuity and the whole visible universe would cease to exist. On the other hand, the consequence of forcing and causing the powers of the mind to converge towards and move to an absolute centre or the complete concentration of mental powers (if practicable) would be to suppress wholly the influence of retardations and deflections bringing the system on to a position of perpetual rest with the elimination of identity and perpetuity and the whole universe would also cease to exist as before. The popular conception, it would appear, therefore, is a

negative fallacy of non-observation of the permanent cause which keeps the creation in existence as well as a positive fallacy of mal-observation which regards a passive-negative condition to be an active-positive one. It is only a short-sighted conception.

*The moon and the human mind,—retardations and deflections:* The operations of the mind are not arbitrary or despotic but they are subject to certain fixed definite and inexorable laws and it is in this that lies the mind's freedom and independence in the choice of actions. If in that choice of actions the mind swerves or deviates a little from the true course or the right line it immediately gets a jerk from behind and the greater is the amount of retardations and deflections the greater is the intensity of convulsions and ultimately a war or a crude revolution makes its appearance. The phenomena of retardations and deflections in the living world—the deviations of egoism—are the counterpart of and complementary to the moon's retardations in the material system with tendencies of variations between certain fixed and definite limits.

*The nearest approach to perpetual motion:* "The idea of perpetual motion as contemplated in the Newton's First Law of Motion is a hypothetical state of things which does not really exist. The nearest approach to a perpetual motion is the motion of the earth in its orbit. This is due to the very great tenuity or thinness of the medium through which the earth moves. Any resisting medium like the air, would have the effect of ultimately making the earth approach the sun by a sort of spiral journey, until at last it would be swallowed up by our luminary."

With an eye to the mode or manner in which the two main partial systems of the universe,—the living and the

non-living, with tendencies of motion in opposite directions—have been joined up together and also having regard to the tendency of the nearest approach to perpetual motion of the earth in its orbit, the conclusion that confronts us is that the tendency of the nearest approach to perpetual motion of the living world in the opposite or contrary direction to a state of the nearest approach to perpetual peace. But it is the tendency of the living world in hindering and in abating the velocity of motion by deviating from the true course or the right line that is responsible for the delay in reaching that condition. The definition of *Britti* ( "वृत्तयः विषयाकारेण चित्तस्य परिणामाः" ) as given in the *Yoga Philosophy of Patanjali* is the ultimate effect of having the states of the intellect objectified by ambition and temptation—darkness, distraction, perturbation, topsyturvy condition—and *Yoga* really means putting a stop to or repress for the greatest part the tendencies of retardations and deflections that is caused to exist in the living world with variations in their repetitions, reversals or succession in vicissitude and degree or proportion for illuminating the inner portion in answer or in return to what happens when an annular eclipse of the sun takes place to lead the order backward on to that condition of the nearest approach to perpetual peace causing the darkness, distraction, perturbation, & the cruel disappointment and the painful disillusionment almost to disappear and also causing the maximum of light to shoot out from the origin from which the universe has flowed out like the appearance of the full-moon nearest the autumnal equinox—( "योग कर्मसु कौशलम्" )—the two inverse phenomena of solar and lunar eclipses acting both as positive and negative catalytic

agents for bringing about decomposition and new combination of events and adjustments of human affairs (nay, of the whole living world) by imposing and removing restraints to maintain the safe relation of unity and harmony between the systems with reference to their natural elastic limits and the safe range of stress. The discussions as given above with reference to the phenomena of total internal reflections and of retardations and deflections would throw lights on the intervention of the divine power in unfolding the truth and developing knowledge while at the same time maintaining the order of the universe and keeping it up in existence as we see it.

*The living world and the material system—the relation between the two—the mirage and the looming:* Nature is uniform—it is consistent with itself. It will behave in the same way under similar circumstances, that is to say, if the conditions be similar, similar events would occur. The very fact of the intellect receiving the image in a mirage or in a looming as inverted, if read along with the consideration of the state of affairs which the rays of light in proceeding from the object had occasion to experience before they reached the eye, would show that the rays in travelling from the image formed by the eye to the intellect underwent a similar change and would bring to view the conception of the phenomena of total internal reflections in passing through the mind having varying densities under the influence of temperature and pressure.

The relation between an object and its image as formed by the water of a lake or a river under the direction of cold in the material system is the same as that which is conceived by the mind, which possesses all the attributes of water, under the influence of heat in the vicinity of a desert.



Further, the connection between a mirage in the vicinity of a desert and a looming in the midst of the sea is reciprocal in character. This is due to the reciprocal nature of the conditions as regards the position of heat and cold in the two places where they are seen and this leads us to believe that the set of conditions that prevails in the living world with the variations of heat and cold is the same as that in the material system but turned upside down.

In a mirage and in a looming the image of the object formed on the retina is erect but the intellect sees it to be inverted. A mirage or a looming is caused by the presence of extra heat in the layers of air in contact with the hot ground or above and as the *law of exchanges* with respect to heat as formulated by Dr. Balfour Stewart, viz.,—"that the relation between the amount of heat emitted and that which is absorbed at any *given temperature* remains *constant for all bodies*";—and that the greater the amount of heat emitted the greater must be the amount of heat absorbed"—would show that it is the absorption or emission of extra heat by the living beings in the locality that sets up the action of internal reflections, but in the inverse directions, and the reciprocal relation between a mirage and a looming, the living world and the material system would be seen to be the same just as the earth-shine and the moon-light would appear to the moon and to the earth. With the cessation of permutation or the elimination of this extra heat the action is reversed, the image formed on the retina is inverted and the intellect perceives it to be erect, and it is the variation in the degree or proportion of heat that is instrumental in bringing about the state of affairs. The concavities of the connecting paths in the two cases are turned round in opposite directions. Further, the

image in a mirage is seen below the ground, while that in a looming it appears, as if suspended in the air. Then again there exists the relation of reciprocity as regards the dispositions of the images in the two cases. All these considerations are very convincing and can lead us to the only conclusion that of the two main partial systems the one is the inverse of the other.

*The illuminating power of the mind and the phenomena of the mind's entrapped dark heat:* Coming now on to the problem of the illuminating power of the mind with reference to the mental constitution and Kirchhoff's law it would appear that the emissive and the absorptive power of the mind as regards light is restricted by the limits of the variations in the degree or proportion of heat and it may have various aspects between those limits exactly in the same way as the moon reflects various degrees of brightness within the period of 19 years after which the phases repeat themselves—but inversely to the material system and also inversely to the periodic changes of the moon when observed from the standpoint of the sensible heat and light. The absorptive and the emissive powers of the mind which bring about the converted or the reciprocal forms are instrumental in producing the perception of relief or form in three dimensions with the conception of solidity or compactness implying resistance to impression and penetration and showing the figures as shooting forward or jutting out as in Bas-relief, Mezzo-relievo and Alto-relievo.

That the phenomena of retardations and deflections which are caused to exist in the human society under the influence of the mind's entrapped dark heat have had acted most wantonly and thoughtlessly and also have had

given the most fanciful turn to the question of war involving the transformation of the energy of position to the energy of motion, but at variable rates, causing the change of motion to occur in a different manner at different times in the different parts of the system at different places and in bringing about an augmentation in the state of separation would be borne out by the fact of history repeating itself and playing the same game of wars over and over again in all ages and in all climes. This would account for the variations in the violence and closeness of wars and would also throw light on the relative periods or the duration of wars at different periods of time. The remark of the American Historian "that during the whole period from 1870 to 1914, the European peoples were ceaselessly professing their love for their neighbours and for humanity and they were also as ceaselessly preparing for war" would supply a suitable example of the position in question.

The other aspect of retardations and deflections under the directions of the entrapped dark heat of the mind as modified by the cooling effect of water is to bring about the transmutation of the energy of motion to the energy of position with a temporary suspension of the state of separation for reconversion into the kinetic form in the future. An illustration of the entrapped dark heat of the mind under the specified conditions to have acted inordinately and negligently and to have proceeded with a visionary movement with the help of retardations and deflections would be found in connection with the promulgation of 'arbitrary laws' and the conclusion of 'forced treaties' for the attainment of perpetual peace "with secret reservation of materials for a future war."

While the fact of the moon possessing no atmosphere in opposition to the atmosphere of the mind consisting of aqueous vapour having the adaptability of retaining dark heat and of causing fracture and distortion of thoughts or change of affections, the tendency of the sentient soul to bring about flexure of inflated and ill-conceived ideas as against the atmosphere of the earth containing dark heat and having the aptitude of refracting light, the aberration of light as contrasted with the deviation of the mind from truth or moral rectitude, the delayed appearance and quick disappearance of spiritual strength as distinguished from the early rising and the late setting of terrestrial bodies and so on would corroborate the conception of reciprocal relation or of difference between the two systems, the diminution of retardations and deflections along with the augmentation of illumination in both the cases would confirm the idea of resemblance between them. A little consideration would also disclose the inverse or the reciprocal relation between the oscillatory movements of the two systems with reference to the centres of force.

With the diminution of retardations and deflections to the minimum possible limit by carrying out the authoritative commands enjoined upon the mind for rendering this world a subject of moral Government in its progress forward within the uniform prescribed limit as demanded by the natural laws of creation, the outlook of things would be shifted from the position of coarseness to one of fineness making the course of life a receptacle for receiving and retaining energy and inspiration from the Supreme Being and this makes it necessary that love and religion should be one of the conditions of peace to be discussed later on again.

The material system and the living world are the opposite aspects of the same thing and so what is impossible in the former is possible in the latter and vice versa. Although at the time of the full-moon nearest the autumnal equinox only one hemisphere of the earth would receive full light at a time yet the whole living world, when it reaches the condition of the nearest approach to perpetual rest, would get the fullest possible illumination from the source at the same time, because with the unfolding and unravelling of tenuity accompanied by a free expression and communication of generous feelings and sentiments as well as without playing with an abnormal conception of self-consciousness, the transmission of the energy of position to the energy of motion and vice versa would be at uniform rates with the least possible retardations and deflections causing the differences almost to disappear and occasioning the replacement of war by peace complaisantly with the nature's skill and aptitude of keeping up the Universe alive.

*The retina—the bonds of association:* The retina, where the sense of vision is first received for the disclosure and communication of truth, as is well known, is a cunning device of fine net-work containing knots or the bonds of association. These bonds of association gradually increase in number with the lapse of time and along with this the store of knowledge and the sifting power for the purpose of examining things minutely and critically, for separating the coarse from the fine, truth from falsehood, also increases within the prescribed limit.

*The progression and the retrogression of the nodes:* Both the material system and the vegetable kingdom respond marvellously to this aspect of the question. The



moon's nodes and the equinoctial points are fixed (being two in number) and they have a retrograde motion along the ecliptic. In the vegetable kingdom which occupies an intermediate position between the living and the non-living these nodes which cause the deciduous parts to arise, move forward along with the march of time but their rate of growth goes backward with the increase of years.

*The moon and the human mind—Librations and curves of motion:* The mind must be in a position to maintain its balance or equipoise for keeping up its stability so that it might not be easily moved, shaken or overthrown and it also must have the same confidence and firm belief in itself, combined with changeable wits, for the purpose of meeting, resisting and stopping any wrested or perverted movement on the part of another. In order that the mind could be in a condition to do so, it must have a clear and certain perception of truth, of facts and of anything that really exists or in other words it must have knowledge, energy, efficiency and constancy enough for coming to a successful conclusion and these factors would be studied later on again.

While the answer of the material system with reference to the above would be obtained by observing the moon's librations and taking into account the fact of the moon always turning nearly the same face to the observer along with the variable amount of bright surface depending upon the relative positions of the sun, moon and the earth, the question of contrast between the two systems would also be apparent by considering that the curves of motion of human beings are all rectangular hyperbolas which make the paths always convex to the centre (a centre is

the point whose conjugate is at an infinite distance) so that all could be carried and brought to similar positions of turgidity or external swelling as distinguished from the disposition of the path of the moon round the sun which is always concave.

*The two systems—the locations of the parts:* (a) The angle which a radius of the moon at right angles to the straight line joining the centres of the earth and the moon subtends at the centre of the earth is fourteen minutes nearly.

(b) The angle between the axis of the eye and the straight line joining the centre of punctum cæcum with the centre of the eye is fourteen degrees or sixty times as much as in (a) above.

(c) The distance between the centres of the earth and the moon is sixty times the earth's radius.

(d) The moon's path cuts the ecliptic at an angle of five degrees and the punctum cæcum, whose breadth is one-sixth of an inch, subtends the same angle at the centre of the eye. The distance of punctum cæcum, therefore, from the centre of the eye is two inches nearly or one-fourth of the distance as given in (e) below as distinguished from the radius of the earth which is nearly four times of that of the moon.

(e) The distance of distinct vision from the centre of the eye as regulated by the power of adaptation is eight inches, giving the total of (d) and (e) as ten inches or the breadth of punctum cæcum is one-sixtieth of this figure.

(f) The obliquity of the equator to the ecliptic is twenty-three degrees and twenty-eight minutes nearly and the ratio of this angle to what is given below is 3:7 in

round figures, giving the reciprocal of the ratio of the disturbing effect of the moon's attraction to that of the sun—that is 7:3.

*The phenomena of nutation:* By the revolution of the eye in its socket its axis has a range of about fifty-five degrees in all directions about its mean position and the phenomena is similar to the revolution of the celestial pole round the pole of the ecliptic. This range of revolution of the optic axis is an indication of the measure of the driving or the impelling force of the mind and of the soul and corresponds to the "wobbling motion of the earth's axis arising from periodical fluctuations in the obliquity of the ecliptic to the equator caused by the attraction of the moon and the sun upon the protuberant portions at the equator." The response of the vegetable kingdom with reference to the nodding or the vibratory motion would be obtained by taking into account the swingings of the pollens contained in the anthers of flowers as well as by the slight circular quellings and swellings of the growing leaf-stems of a plant. The tendency of human beings for continued search after and to be wholly engrossed in the Divine Power with oscillatory motions or motions consisting of continual reciprocations or returns coming down from the remotest past or the terrestrial pole approaching and receding from the celestial one would supply an answer to the phenomena of 'nutation' in the material order of things, but in the inverse order. The alternate dilatation and the contraction of the lungs is also an instance on the point. These facts only bring to view the appearance of mutual attraction and repulsion between the corresponding poles conjointly with the contraction and the expansion of the universe preserving intact the Safe ratio of the

crushing strength to the bursting pressure and would clearly reveal the fallacy of the ideas as regards the death of the universe. The mutual attraction and repulsion between the different parts and the conformity of the different parts to the whole and to one another together with a consistency in the Safe ratio of the crushing strength to the bursting pressure is the eternal law of nature.

*The two systems—their functional dispositions:* In the domain of chemistry the selective process or the tendency of the different elements to unite with one another and which is determined by the periodic law for the purpose of maintaining their identity and perpetuity is the greatest between those elements that are the most dissimilar in obedience to their primary functional disposition of ceasing from motion or motion backward; but in the living world the process of natural selection and which Darwin described as 'the natural selection of those qualities that are the most useful to preserve and continue the life of the species' are confined to those parts that are the most similar, quite agreeably to their allotted initial drift of the continuation of motion or motion forward without any restraint comprehending in it in the most concise and generalised form the multitude of phenomena presented by and peculiar to the living world. As the tendencies of the two systems towards continuing the unsteady motion and ceasing from motion press constantly against one another, we are furnished with the materials for proving the existence of an opposing cause and that the universe we live in is a finite one.

These details appear to be very significant and can lead to the only conclusion that of the two main partial

systems, the one is the opposite aspect of the other—(“तद्विपरीतस्तथा च पुमान्”—साङ्ख्यकारिका ) and the information embodied herein might be of use in carrying on further researches in this direction in the determination of the representative fractions and in locating the positions of the Mind and of the Soul with the two eyes standing for the single earth and the two minds for the one moon.

*The human mind in Sankhya philosophy*—“The sensorium communi.”: With reference to the action of the human mind the information that was given in the “Sankhya philosophy” was that the mind is the “sensorium communi” or it is the medium for the arrangement and the transmission of images to and from the intellect or the faculty of the soul.

In external actions the material bodies are the images of crude-subjective ideas while both the crude and the keen subjective ideas are the images of spiritual strength in internal actions, and this gives us an introduction to the idealistic theory of Plato and others, but the system or the theory which makes every thing to consist in ideas and denies the existence of material bodies and of the Divine Power is a fallacious one.

*An indication of the Source*: As the curves of motion of the component parts of the material system are ellipses and well-nigh parabolas the inference that can logically be drawn is that in the case of the living world the curves of motion would be hyperbolic and almost parabolic ones for securing steady motion in relation to their course in the cycle and the proposition can, likewise, be considered as being free from the element of doubt and the supposition taken as true in view of the fact that both the egoism or self-consciousness in human system and the eccentricity



of the hyperbolic curve which denote deviations from centre may have, theoretically, any value varying from unity to infinity. That this is true in the case of the human society would also be borne out by the fact that the egoism or the Sanskrit "अहंकार" in 'Sankhya Philosophy' strives as an agency for the momentary enjoyment of the fleeting and the transitory archetypes of things in an inordinate manner by overriding the intellect and surpassing the dictates of conscience and reason as well as for becoming wholly engrossed in the divine power. The well-nigh parabolic path, then, evidently gives us an idea of the limiting position to which the two systems can be carried on in this Universe and the curve with one centre as infinity also points out the source from which the systems have flowed out. "The universe is less a creation than an emanation of the Deity"—Aristotle (384-323 B.C.) [A parabola is a non-central curve with the parallel diameters meeting and with one tangent or line of contact situated altogether at an infinite distance. A parabola has one centre at infinity, has its eccentricity equal to unity and as such it is intermediate between an ellipse and a hyperbola, partaking the characteristics of both.]

Further, as of the two main partial systems—the living world and the material one—the one is the inverse or the reciprocal of the other and as the curves of motion of the different parts of the material system are elliptic ones with their eccentricities less than unity or are weakened in inclination to unveil something less than the truth, the paths of the component parts of the living world would be hyperbolic curves with their eccentricities greater than unity or strengthened in disposition to disclose something more than what is true.

Then again, the phenomena of the sudden diminution in the value or efficiency of egoism from infinity to a small limited value very much disproportionately to the small increase of resistance for the purpose of maintaining the identity and the perpetuity of the creation as discussed before would show it to be a fact that, in response to the behaviour of a material structure which absorbs internal work or resilience in becoming strained by external actions and develops deflections and also in response to the phenomena of total internal reflections in optics, the living world in passing through the fluctuating strains of retardations and deflections turns its views back upon itself and, quite unexpectedly, throwing the thoughts upon the past operations of the mind and upon the past events of life in a greater proportion suddenly takes up its motion in the opposite direction at the critical stage relieving the strain and leading to peace as a force at restraint against perpetual hostilities under the influence of the constraining mechanism, that is to say, the eccentricity of the curve falls very much short of infinity, that the branches of the curve do not also practically stretch themselves out to infinity and that the equation of motion of the human system as a whole is a system of concentric rectangular hyperbolas with the two final critical or limiting positions recurring at intervals of  $432 \times 10^7$  solar years, the relative movements of the different parts in the cycle with reference to the whole and to one another being adjusted by the expansion and the contraction of the universe as well as by the tendencies of the systems in continuing the irresolute forward motion and in ceasing from motion under the control of forces from the origin.

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## CHAPTER V

The tendency of human actions as displayed by a study of the relation between the living world and the material system with reference to War and Peace from the standpoints of the Periodic Law and the Theory of Involution, lending aid to unveil the power, wisdom and goodness of God as manifested in the creation.

*Darwin and his Theory of Evolution, Evolution or Involution? Evolutes and Involututes:* "We then learn", said Darwin, "that man is descended from a hairy quadruped furnished with a tail and pointed ears, probably arboreal in its habits and an inhabitant of the old world. \* \* \* This quadrumana with all the higher mammals are probably derived from an ancient marsupial animal and this through a long line of diversified forms either from some reptile-like or some amphibian-like creature and this again from some fish-like animal."

Darwin also said, "I will conclude with a quotation from Huxley, who after asking, does man originate in a different way from a dog, bird, frog or fish? says, 'the reply is not doubtful for a moment; without question, the mode of origin, and the early stages of the development of man, are identical with those of the animals immediately below him in scale: without a doubt in these respects he is far nearer to the apes than the apes are to the dogs.'—The Descent of Man. In his "The Natural History of Creation", Haeckel

said, "the descent of man from the ape is unbroken."

The very fact that the early stages of the development of man are identical with those of the animals immediately below him in scale, and that man is far nearer to the apes than the apes are to the dogs, does not and cannot afford any justification for coming to the conclusion that the plants and animals have developed by gradual modification from previously existing forms of life; on the other hand, the materials supplied would corroborate the conception of the relation of collateral connection—running parallel and together as descending from the same stock—and not that of the one arising from the other.

The resemblances in external appearances and the agreement in direction or tendency between the different partial systems of the vegetable and animal kingdom are only the natural consequence of their flowing out from the same source, for it is a well-known fact that there could be any number of contiguous and parallel involutes corresponding to one and a single evolute.

The differences of structures and the dissimilarities of disposition, along with the resemblances in the various groups of plants and animals are only the acts of omission and commission—conditions negative and positive—to make the several parts adaptable to each other so that they, by being united to contrast in pairs and having transverse motions, (Cf.—the polar-forces in magnetism &c.) can maintain the identity and the perpetuity or the sameness under every possible variation of circumstances, under the guidance of the same source.

As the resemblances and the differences between the several involutes, or those between the ordinary

and the structural or the constitutional formulæ of a chemical compound which indicate the ways in which the various atoms within the molecule stand in their relation to each other and to the whole, or those between the different brothers born of the same parents, cannot afford any justification for thinking that the one has arisen out of the other, so the resemblances and the differences in the case of the various groups of plants and animals do not supply any material for coming to the conclusion to which Darwin arrived. His conclusion is only the non-inferential logical fallacy of explanation resulting from the mis-apprehension of the relation between cause and consequence. (अन्या सिद्धिस्तस्य नियता पूर्ववर्तिता कारणत्व भवेत् ) A permanent cause is one which subsists without any possibility of being disproved, or proved otherwise than as a cause. It is always the immediate, invariable and unconditional antecedent of an achieved, acquired and accomplished fact and is quite independent of time and space.

If it is supposed that the higher forms of life or the higher species have gradually arisen out of the lower, then the prelude or the preliminary to that supposition would be the conception of abiogenesis or spontaneous generation, or the idea of investing the material system with the standard of life and impulses sufficient to produce the impression of uncertain and diversified motion forward, in violation of their primary functional disposition of ceasing from motion, and the fallacy of the assumption is apparent. Further, the supposition stands on the basis of physical aspects with the confusion of regarding the *material* and the *form* only as the sole pre-disposing causes, without any reference to the



*extrinsic* or the *efficient* and the *final* causes, as well as in disregard of the endless identity of the creation, and as such the conclusion remains the same. The very idea, therefore, of admitting Darwin's decisions as well as of those who belonged to the evolutionist school of thought—such as Haeckel, Huxley, Wallace and Lamarck—would be found to have been restricted, just as the conceptions of perpetual motion and of perpetual rest are barred by the eternal existence of the visible universe. It is needless to say that the notion of perpetual motion in the material order and the idea of the higher species gradually arising out of the lower in the living system are really the one and the same thing but only in different garments. Both are chimerical and misleading.

*The functional determinant or the discriminant of the creation:* The sameness in the resemblances and the differences under every possible variation of circumstances which constitutes the identity and the perpetuity represents the *functional determinant* or the *discriminant* of the creation. The existence of this "functional determinant" could be traced in the domain of chemistry as well, for it is well-known that the physical and the chemical properties of the elements and their compounds are the periodic functions of their atomic weights, and this evidently implies finality, identity and perpetuity of the whole system. It is also evidently an answer to what is considered to be an apparent contradiction in connection with the periodic law, namely, the fact of some of the elements having almost the same atomic weights but possessing different chemical properties, and conversely, some possessing almost the same

chemical properties but having different atomic weights. This is only the natural concomitant of identity and perpetuity or of sameness under every possible variation of circumstances with reference to the parts of which the system is composed. The very fact that this *functional determinant* or the *discriminant* cannot at any time or under any circumstances disappear, can only lead to the conclusion that the conformity of the various groups of plants and animals to the whole and to each other is only due to the *primary and independent* relation which they separately bear to the *first existence* or the *extrinsic cause*, disproving Haeckel's conception in his "The Riddle of the Universe" in which he attempted to explain "that the universe was brought about by purely natural causes, without the intervention of any Divine Power."

The fallacy of the conclusion would further be apparent by considering that in his assertion that plants animals have developed by gradual modification from previously existing forms of life, Darwin supposed the process to be unconditional and without any restraint or limitation, or in other words infinite and absolute. As all the different partial systems with all their component parts are neither at rest, nor in infinite and absolute motion, but have been repeating their relative cycles of operations at regular intervals of time with reference to the whole and to one another, maintaining their identities and perpetuities, quite independently of space and time, they are plainly acted on by external forces apparently from the Origin, and Darwin's proposition, it would be seen, is only an assumption which still remains to be proved. The different partial systems of

the living and the material world which always go together are equally fundamental, and it is futile to attempt to reduce any one of them to the other. The differences along with the sameness of form or external appearance, that is to say, the appearance of features, permanent in lower forms, in the developmental stages of the higher animals, as well as the sameness in the line or course in which the various groups of animals move by impulses under every possible variation of circumstances are only the indications of the conformity of the different parts to the whole creation and to one another. Then again, the agreement of certain features with reference to the particular period of growth in all the members of the animal kingdom, whether they are brought into existence in the same place at the same time, in the same place at different times, in different places at the same time, or in different places at different times, would further show that the functions are concomitant and that their relation with reference to the *first existence* or the beginning is constant, for it is well-known that the relations of concomitant functions to a quantic are unaltered by linear transformations when the axes of co-ordinates are unchanged, as well as when they are changed in any manner, so long as the origin remains the same.

In his inference on the basis of the resemblances that the complex types or species have arisen from the simpler ones, Darwin ignored the origin in his "The origin of species," and contemplated a proposition similar to the increase in the degree of an equation by transformation, and the fallacies of his assumptions are also plain. The extinction of any one unit or sub-species

from the field, inspite of its tendency for the preservation of the individual and of the continuation of the kind, and the appearance of another with a different representation are only the evidences in support of the existence of an extrinsic cause—manifestly the Origin—and the small range or the extent of the differences in the sensible appearances or in the representations with reference to the different individuals of the same species is also an indication of the tendency of the Origin to depart but little from the positions of equality and oppositeness of the forces of power and resistance.

The usual sterility of hybrid animals (hybrid plants are partially sterile) which precludes the possibility of even one species from passing on the another within the same genus would prove the unreasonableness of the notion of transformation of one genus to another, and would put a limitation on the specious sophism of the evolutionists—on basis of physical aspects—embryological, anatomical, fossil remains—"that man has evolved from a lower, less complex form of life". On the other hand, the identity and the perpetuity of the creation as maintained by the co-existent reciprocal forces of repulsion and attraction, limitation and restraint in the same identical manner, irrespective of time and place, only confirms the idea of collateral connection and adds up to and strengthens the permanent cause out of which it grew. Here it is to be observed that the individual units of the complex and the simpler types of the partial systems with their corresponding points of resemblances and differences are the several constituent parts of a complicated whole, or are the distinct sorts of homographic systems, which, by being assorted and placed

together in twos as things that are united to contrast or that are adapted to each other and moving always under the constraint of the same standard of perfect truth and justice, bring into existence a system in involution or a system in an entangled, implicated, inwrapped or critical state in conformity of the different parts to the whole and to one another, and the phenomena remain always identically the same irrespective of time and place producing and causing to exist a state of concord and harmony by the combined action between the different parts and keeping the creation in existence everlastingly in precisely the same order. That light comes within the same category as well is evident, in as much as it has the same disposition of the living world with the power turned upside down, and as it also has the same power and opposite disposition of the material system with reference to its course of actions, that is to say, with reference to the question of illumination and the methods by which that illumination is produced. The position also remains the same when the matter is considered otherwise from the standpoints of motion and the transmutation of the energy of light into mechanical effect. The creation, therefore, is a co-variant, contra-variant, concomitant, harmonic, an-harmonic quantic or the creation is in a critical condition both freed and restrained. The position of the universe with reference to the creator is the same as the mathematical conception of what is known as the intermediate interpenetration of a cone and a sphere which is both complete and partial. The creation is a transverse wave. It is the polar of the Origin and conversely, the creation has its common meeting-ground about that point.



*Einstein and his Theory of Relativity, Relativity or Reciprocity?* Taking the universe as a whole, the doctrine of identity and perpetuity requires that the Universe must have the two-fold aspect of expansion and contraction in reciprocal succession in different sections at the same time between certain limits to keep up the sameness under every possible variation of circumstances and brings into view the conception of a finite and bounded universe. It must not be "constantly expanding or contracting in size" as conceived by Einstein and the fallacy of his conclusion is evident. The actual phenomena of motion in the Universe with the whole system of created things, the single common factor between a connected series of parts, namely, the bond of affection to give directions to the ideas of self-realisation and the One who directs the conduct and course of life are the same as the motions of the *guide-point* and of the *ends of the link* in simple parallel motion, the *guide-point* serving as a point of attachment for a *piece* which moves to and fro through a limited range, and requires to be guided in an approximate straight line, and are also similar to those that are produced by the compensation balance-wheel of a chronometer with the variations of temperature. As the driving or the impelling biodynamic force of the living world tends to wander without restraint in contravention of the prescribed limits of time and space under the influence of heat, the material world begins to shrink and shrivel; and conversely, as the former begins to recoil and declines work, the latter attempts to wander up; and as such the set-up incloses the double interpretation of expansion and contraction in reciprocal succession in

different sections at the same time, (Cf.—the expansion and the contraction of the dark lines in the solar spectrum). But on the other hand, as the systems obtain their limiting or critical positions of equality and oppositeness at the terminal stages or at the instantaneous centres of rotation, the Universe—the single identical whole for a connected series of parts—remains stationary for an instant and then retraces its original path, and thereby preserving unaltered the identity and the perpetuity of the creation by the applications of the restraining and the regulating influences, subject of course, to the action from the origin. The position again flings some light as to the nature of composition at the rim or at the margin, as well as in the body of the universe, showing the existence of a keen and more elastic material at the rim than in the middle, or that the space within the universe is a medium of varying densities.

The ideas that were put forward by Einstein in his "theory of relativity" were:—

- (1) " That time is a co-ordinate of space . . . . "
- (2) " That the three dimensional geometry ignores the independent velocity of light and its effect upon measurement when the observers are in relative motion. Time must then be added as a fourth dimension, and the resulting space-time-continuum involves the idea of a finite yet unbounded universe such that a straight line will ultimately return to its starting point. Hence *space-time* is the name given to the fourth dimensional order

of things in which any physical concept is located by three spatial dimensions and one time dimension."

- (3) "That the rate of travel of light is the same in all directions at a given place, and its value is constant for all places in the universe, no matter what might be the relative movements of the earth or other system of reference involved."

*The movements of light:* While the eternal existence of consistency in the relations of the different components, or the everlasting conformity of the different fragments with reference to the whole and to one another as the parts of a system in involution, or the endless identity of the creation under every possible variation of circumstances shows that the connection with reference to the origin is constant, exhibits brightness and splendour and unfolds the glory of the creator, (the focus of a system is the point which coincides with its conjugate), it also at the same time corroborates the conception of Einstein "that the rate of travel of light is the same in all directions at a given place, and its value is constant for all places in the universe, no matter what might be the relative movements of the earth or other system of reference involved" and further unveils the aptitude of light to adjust itself to the variations of resistance in passing through media of varying densities such as vacuo, air, water etc., in conformity to the eternal trend of the universe of keeping up sameness under every possible variation of circumstances, namely, as the resistance increases the power diminishes and vice versa.

*The shape of the Universe—a sphere:* Reverting here once again to the question of the *index-value* as discussed before it would be observed that the increase or decrease of progress from a very small finite value to infinity and vice versa, for a small decrease or increase of resistance is suggestive of the shape of the universe. The mundane system is spherical in shape as conceived by the philosopher of Miletus—Anaximander (B. 610—D. 545 B.C.)—for a sphere is a symbol of concord, harmony and conformity of the various parts to the whole and to one another, and also because a cone, a sphere and section surfaces are the essential adjuncts for determining the disposition of a conic section. [If the projection of the vertex of the cone fall within the projection of the inscribed sphere, the common tangents can not be drawn; in this case the indefinite cone has no definite form of projection, but it may still be represented in projection by the circle and point or by two circles. The locus of the vertices of all cones out of which a given ellipse can be cut is a hyperbola passing through the foci of the ellipse. The Earth and the Sun which are reciprocal to one another are in the two foci of the ecliptic. There is nothing to restrict the position of the vertex save and except that it may lie anywhere in a known circle in the plane normal to a given line in the plane of a given conic without cutting it, and the conic not being parallel to the line joining the given line with the vertex. The polar reciprocal of a circle is a conic section, of which the origin is the focus, the line corresponding to the centre is the directrix, and which is an ellipse, a hyperbola or a parabola according as the origin is within, without, or

on the circle. The horizontal trace of an indefinite cone is an ellipse, a parabola or a hyperbola according as the configuration of the cone makes it to be.]

*The phenomena of gyration, the paths of motion of the different partial systems-members of the same family of curves—Sir William Thomson and his "theory of the dissipation of energy":* The demonstration of the fact that the velocity of light in water is less than what it is in vacuo has led to the conclusion that the propagation of light waves is the propagation of energy. But as energy can have no individual existence, the quantity of matter with which light is connected is apparently very small. Although, light has the special adaptability of continuing its motion and is without any tendency to stop, it can not pass beyond the limits of the focal sphere, and the nature of the curves of motion of the different sects or denominations which constitute the Universe are determined by the quantities of matter with which they are associated along with the arrangements thereof, and the power and the disposition with which they are furnished, subject of course, to the proviso that they return unfailingly to their starting points to keep up the initial and final positions the same as the parts of a conservative system, and maintain their identities and perpetuities. The orbits of by far the greater number of comets which are bodies of extremely small masses and densities, and which exhibit the aptitude of adapting themselves to variations as displayed by the considerable changes in the shape and size of the same comet at different parts of its orbit, (cf.—the changes in the generic character and the specific form of the nebulae), as well as by the opposite dispositions of



developing direct and retrograde motions premising the play of an unseen conscience and reason, are well-nigh parabolas containing the Sun in one focus and having the other focus lying practically at an Infinite distance. The conformity continues through all essential points representing something real in life and nature and we are faced with the roving and rambling nature of motions of the different partial systems (cf. the erratic movements of the magnetic needle and of the mind) as well as with the continual manifestation of that unseen conscience and reason in a state of high relief in one and in low relief in the other. The paths of the living world which has the tendency of becoming finally polarised for spiritual strength or perpetual rest after being subjected to roving and rambling movements are rectangular hyperbolas and their reciprocals—the lemniscates with reference to the centre—(the privative significance of the asymptotes in restraining them from meeting the curve, however extended, clearly contemplates a negative sense and implies the existence of something negative and external), while the curves of motion of the material system which is known to have a bearing down constraint on the aptitude for prolonging the movement, and which is to be polarised for material strength or perpetual motion are parabolas so to say, and their inverse the cardioides in respect to the focus,—all the four paths—the rectangular hyperbola, the lemniscate, the parabola and the cardioide belonging to the same family of curves and infolding corresponding changes of power and disposition with reference to their adaptabilities for continuing and suppressing the tendencies of perpetual motion and of perpetual rest. The phenomena as described above are true for all spaces and for all

times, and as such the sects or the denominations are evidently under the control of forces from the origin. The reciprocal condition of light without any limitation on its tendency for movement would give some idea of the particular character of the author or the producer of things—"The Absolute," who may lie anywhere in a given circle, the straight line—the path of a ray of light—and the circle also coming within the fold of the same family of curves as mentioned above. The theory of the dissipation of energy as worked out by Sir William Thomon militates against the principle of the conservation of energy, as well as against the doctrine of identity and perpetuity which implies the fulfilment of all the three mathematical conditions of stability of a structure, and the apprehension as to the death of the universe is simply an illusion, or a deceptive and a speculative conception. The mechanism of the creation is such, that the conversion of as much as only one-fourth of the absorbed power would carry us on to the position of concord of the forces of power and resistance, or to the position of concurrence of the head and the tail levels with the annihilation of the universe. (Cf.—Economics—"When the sale of the commodity is reduced to nothing, *the consumers' surplus* also vanishes"). The discussions as given above evidently prove the relation of collateral connection, that is to say, the systems run parallel and together, as descending from the same stock—God the Absolute—and not that of the one coming from the other.

*Kapila, Ishwar-Krishna. Leibnitz, Herbert Spencer and John Stuart Mill:* The conclusion arrived at is very different from what was contemplated in the Sankhaya Philosophy, and this is due to the incongruities

under which Kapila, and his commentator Ishwar-Krishnacharya laboured. The idea that was sought to be established by the aphorism—(“विगुणमविवेकि विषयः सामान्यमचेतनं प्रसवधर्मि, व्यक्तं तथा प्रधानं तद्विपरीतथा च पुमान्”—साङ्ख्यकारिका । ) as regards the tendencies of motion of the two systems is just the inverse of what actually prevails, and the proposition, with the conditions overset or with diametrically opposed premises, can have the only consequence of indicating the non-existence of the creator and leading the universe to its end. The two explicitly told and implicitly imparted inferences as to the non-existence of the creator and the destruction of the universe would readily crop up on following the course of the capricious prank of attributing perpetual motion to the *passive* material system which expresses the *passion* or the effect of the action of some agent, and of ascribing perpetual rest to the living world; but the tendencies of the two systems as regards motion are the reciprocals of what the aphorism contemplated, and the eternal visible universe would show the absurdity of the playful supposition. “The material world could not exist of itself. *Matter* is but the necessary counterpart of *spirit* and it is in *matter* that *spirit* reveals and realises itself.”—Hegel. In his illustration of a crippled but not blind man sitting on the shoulder of another who is blind but not lame, the commentator Ishwar-Krishnacharya\* assumed the tendencies of the two systems as regards motion to be in the same direction and the fallacy of his explanation is evident.

In his theory of pre-established harmony, namely, the pre-established relations between body and mind—

\* “पुरुषस्य दर्शनार्थं कैवल्यार्थं तथा प्रधानस्य ।

पद्मबद्धभयोरपि संयोगस्तत्कृतः स्वर्गः ॥”

the movements of monads and the succession of ideas, as it were, a constant agreement between two clocks, the German Mathematician and metaphysician Leibnitz (1646-1716) similarly laboured under a mis-conception in as much as he, while upholding the idea of separation on the part of the Divine Agency with a previously settled relation between the two systems, assumed their tendencies of motion to be in the same forward direction and the notion can have only the same speculative effect upon the Universe as given above.

The dissertations as given below would also stand against the contention of Herbert Spencer that it is not possible to determine if the creation was brought about by any *will* on the part of God. As with reference to the mutual respect between the creator and the created, the creator can not possibly be the dative of interest or the agent to be benefitted by the action, and His intention can not be the attainment of some material gain or profit ("उपायविषयिनी इच्छा") it must be the other of the two possible alternatives, namely, for the sake of affection and pleasure ("कलविषयिनी इच्छा") by relieving himself from the pain of perpetual rest or of perpetual motion. The actions, no doubt, are sometimes crude but the intentions are always keen. Further, as the three words *affection*, *pleasure* and *will* are synonymous terms which convey the same idea, the presence of *affection* and *pleasure* would prove the presence of the *will* on the part of the creator. The control and administration of an indefinite number of universes in infinite space for infinite time with perfect truth and justice is also an indication of the infinite power of the creator. His mercy consists in unfolding the truth and developing knowledge, for God is truth and knowledge eternal and

infinite, and so Kapila's aphorism of "ज्ञानानुक्तिः", or that the emancipation of the soul is attainable through knowledge and his axiom of materialism are self-contradictory. Then again, the arguments as given herein would also be seen to supply an answer to the misconception of John Stuart Mill on the question of mercy of God.

*The Naya Philosophy of Gautama, Haeckel's 'The Riddle of the Universe' and the Theory of Involution:* All these considerations can only take us to the conclusion that the mutual or the reciprocal relation between action and reaction, power and resistance, incentive to action and resistance to that action, the living world and the material system under the guidance of the same source, is the same as that which subsists between the conjugate focal lengths and the sizes of images in optics and which is represented by a rectangular hyperbolic curve. The position of the universe would also be found to be exactly similar when looked at from the standpoint of the mathematical theory of involution which teaches us that with the common progenitor—the origin and the support of the branches—lying at an infinite distance, there must exist the relation of approximate equality and oppositeness as regards power and resistance etc. due to the intervention of the phenomenal emanation or of the affection which issues or flows out from the fountain-head who shoots out or darts forth the beams or the gleams of intellectual rays and turns them round with the lapse of time to keep up the creation in existence as we see it, and so Gautama's dictum of 'the immortality of the soul in his Naya Philosophy and his conception of actions and reactions as a distinct and independent primary cause over and above the creator



would be seen to suffer from the disability of the Plurality of Causes which is unsound and irrational. The sameness in the nature of actions and reactions under every possible variations of time and space can, on the contrary, indicate the intervention of the divine power or of the shaping spirit. If it is supposed that the creation was brought about by natural causes, or causes inherent within the focal sphere without the intervention of any divine power, as conceived by Haeckel in his "The Riddle of the Universe", or if the consequent rising and falling in numerical concomitance with the antecedent, or the tail level varying simultaneously with the head level, is taken as a distinct and independent primary cause, by considering the divine power to be merely an ornamental figure-head in so far as the existence of the creation is concerned, as imagined and understood by Gautama in his Naya Philosophy, then the supposition would be in conflict with the observed facts and the established truths and with the omission of the origin the actions and the reactions would recede from sight, and the whole phenomena would dwindle down to nothingness. The explanation of regarding the actions and the reactions—the reciprocal effects of the same cause (cf.—The flow and the ebb tides, and so on)—as the efficient and final cause is simply an ordinary short-sighted interpretation of least resistance. The creation, it would be observed, therefore, has been made to stand on a progressive and retrogressive complex effect, produced by a stipulated accumulation of knowledge and gravitation, wrought by the never-ceasing transmitted influence of a Permanent cause which is invariable and also variable between certain fixed and definite limits.

*The doctrines of Materialism and of Universal Concomitance* ( "व्यभिचाराभावः व्याप्तिः, विहायस्थितिर्यव्यभिचारः" ) : Besides the aspects as noted above, the phenomena may be looked at from two other different angles of vision with reference to the nature of observation. If the attention is confined to the mere ceterior appearance, depending upon the functions of the eye only, without any reference to the regulated intellectual discernment of events ( "ज्ञानेन ज्ञेयमवलोकयेत्" ) —then the universe would be raised in estimation, and it would appear to be all that exists, (cf. "the world is the totality of all phenomena"—Kant) lying down the foundation stone of the materialistic theory as propounded by Haeckel and others, with the limiting and the restraining influence leading to the dissolution of the universe. (Cf.—"the material world could not exist of itself"—Hegel). But, if the attention is directed to the ulterior purpose of keeping up the universe in existence in distinction to the things seen or the external show, then the position would be reversed over-thwart, bringing to view the finality of the universe, confirming the doctrine of universal concomitance as conceived by the Vedanta School with a proof that the creator is interfluent and inwraps the creation in and through, and disclosing the fallacies of the theory of materialism, namely, the positive fallacy of mal-observation as well as the negative fallacy of non-observation or overlooking altogether essential circumstances. Neither the material world, nor the living system, nor the two taken together, could exist without the unceasing intervention or interposition of a positive-negative external cause, and the consistency in the relations of the different parts to the whole and to one another in the cycle, that is to say, the beginning of

the same course again and again for all in a round of years or a period of time, or the recurrence of the same series of events everlastingly in precisely the same order, along with the reciprocation or the regular return or alternation of two critical points of identification, will clearly show the continuous working of a *reciprocating agent*—whose divergent pencil of intellectual rays envelops the curves of motion of all the members of the said family of curves—as well as the deceptive appearance of the doctrine of materialism which denies the existence of spiritual substances, and maintains that the soul of man is the result of a particular organisation of *matter* in the body.

“The ‘Nous’ or the Shaping Spirit is the most pure and subtle of all things and has all knowledge about all things and infinite power”—(Anaxagoras—D. 428 B.C.). “God”, he considers, “is the universal mind, diffused throughout all things, and is the self-moving principle of all things. The Deity was previously combined with the chaotic mass of passive matter but he had the power of separating himself and since the separation He has remained distinct”—(Pythagoras—570—504 B.C.). “He assumes, as the ultimate elementary grounds of Nature, an infinite multitude of indivisible corporeal particles, *atoms* and attributes to these a primary motion derived from no higher principle”—(Democritus—460—357 B.C.). Neither the passive insensible particles of matter with inert life and impulses and with the primary functional disposition of ceasing from motion, nor the sensible particles of energy with active life and impulses and with the initial drift of continuing mutable motion could assume the tendency of motion and of rest without the incessant interposition of a higher-principle

or of the divine agency. The idea of separation as upheld by Pythagoras can have simply the effect of bringing about a compromise in the position of the universe. "The universe which is infinite, is in part a *planum* and in part a *vacuum*. The *planum* contained innumerable corpuscles or atoms of various figures, which falling into the *vacuum* struck against each other, and hence arose a variety of curvilinear motions, which continued, till at length atoms of similar forms met together, and bodies were produced"—(Leucippus—5th century B.C.) An infinite universe clearly means the position of discord of the forces of power and resistance or of perpetual motion entailing its destruction. Leucippus was the originator of the atomical-system of Physics and Democritus was the author of the atomic Philosophy. According to this theory, Leucippus and his disciples, by ascribing a sensible power to the particles of matter, and setting them in motion, accounted for the origin of the universe without the interposition of divine agency. Descartes borrowed from Leucippus his hypothesis of *Vortices* and Kepler also availed himself of his speculations.—("अग्नेर्दृष्टं ज्वलनं वायोस्त्रिभुक् पवनमग्ननाम् मनसश्चाद्यं कर्माहृष्टकारितम् सदकारणवत् निश्चयम् । तस्य कार्यम् लिङ्गम् ।"—Baisheshik Philosophy—Kanad. "In the beginning the elements were held in a sort of blended unity or sphere by the attractive force of love; when hate, previously exterior, penetrates as the repelling and the separating principle"—(Empedoglas—450 to 350 B.C.). Hate—aversion, antipathy or contrariety of feelings—can only have an internal existence, and it being deadly and destructive in character can hardly enter into the conception of creation or construction with the object of bringing relief from the pain of perpetual rest or of perpetual motion.

The identity and the perpetuity, which represents the *functional determinant* or the *discriminant* of the creation, is the prominent feature in reminding us of the relations of concomitant functions to a quantic and in making known the fact that the creation will continue to act so long as the origin remains the same. The operations of the origin are, no doubt, invisible, but they may be made visible by the knowledge of the effects they produce and which we actually see. ("अथ तत्पूर्वकं निविधमनुमानम्—पूर्ववत्, शेषवत्, सामान्यतोदृष्टम्"—*Naya Philosophy*—Gautama).

*The influence lines: the dark lines of the solar spectrum and the irrationality of dispersion:* "In the third order of spectra the continuity of the coloured light is broken by *dark lines*. These dark lines do not arise from the source of light, but from the absorption of definite colours—(or rates of vibration, if we are considering the physical theory of light)—by *vapours* through which light has passed. Such spectra are formed by the light of the sun and the stars. Further, with the solar light the phenomena of the dark lines in the spectrum, as to order, number, and relative position, are always the same when the same substance is used."

The function of light is to make things visible and to show all that has any existence by becoming scattered in all possible directions as well as by assuming a particular direction. The constancy as to order, number, and the relative positions of the dark lines of the solar spectrum, with the methodical multitude of these dark lines in some parts of the spectrum as contrasted with their position, or their systematically thinly dispersed state in other parts, or the sameness under every possible variation in the direction of translation of the rays of



light as well as of time and space, when the same substance is used and the source of light remains the same, together with a study of the dark spots on the bright body of the sun can only bespeak that the dark and the bright forces which always go together in the same place and at the same time are only the graphical representations of the influence lines which emerge from the origin to hold out the arrangement of the influence lines in the field in which they are located, and the magnitude of the strength they possess, and can indicate and tell us about the sameness or the oneness of the origin and also about the sameness of the affectionate stress which comes up or arises out of it in all places for all times. (Cf.—The doctrine of universal concomitance). Further, as the appearances in the sun and in the spectrum are conjugate and reciprocal it is only logical and reasonable to expect that these dark lines should have a tendency to converge, to coalesce, or to become pressed together at the edges in opposition to the dispositions of the dark spots which are darker at the centre than round the margins. The latter again are opposite to the behaviour of the luminous rays of light, of the magnetic lines of force, and of the lines of force in electric induction which have a tendency to diverge and to become thinner as they proceed further away from the centre, and the gesture or the attitude of the living world and of the material system as regards the centres of force and the extreme limits is the same as that of the bright and the dark influence lines with reference to the centre and the ends of the spectrum. (Cf.—Kepler's Second Law of planetary motion).

The accumulation or the heaping up of the dark

lines increases to a certain maximum in the violet region after which they suddenly disappear just in the same way as the factor allowing for the effect of the velocity of approach leaps unexpectedly from a finite value to infinity. But on the other hand, as we recede backwards to the source,—the celestial centre of force—the position is reversed and we see an expansion of the distances between the dark lines along with a contraction in their widths making the lines less dense and ill-stocked, the rarefaction or the attenuation attaining a certain maximum in the red tract, after which they become invisible by passing on to unity. (Cf.—The diminution of retardations of the full Moon nearest the autumnal equinox, the decrease of the deviation from surface parallelism in the case of water flowing in an open channel with a given discharge on reaching the ultimate stage, and the tendency of the monopoly revenue curve to approximate to the shape of a constant revenue curve at the pre-eminently maximum monopoly revenue point, or at the common meeting-ground, along with their room for excursion). The beginning and the end of the creator—the primary cause—and of the creation—the primordial nature—remain seemingly undisclosed. Cf.—

“अव्यक्तादीनिभूतानि व्यक्तमध्यानि भारत ।

अव्यक्तनिघनान्येव तत्र का परिदेवना ॥”—गीता ।

The percussions and the remissions of the dark and the bright lines, as we see them in proceeding forwards from the centre to the two extreme outward and inward conjugate foci on either side, and in receding backwards to the same point, are united as correspondents as regards resemblances and differences with reference to what we have occasion to observe in analysing the mathematical relation that subsists between

the to and fro movements of the object and its image in optics with reference to the lens. (Cf.—The expansions and the contractions of the universe). As the object moves on from the double-point—one of the positions of equality and oppositeness of the forces of power and resistance, of actions and reactions etc., which presupposes the existence of the rays of light and of a clear and transparent substance whereby the rays of light passing through it are made to change their direction, with analogy to the beams or the gleams of intellectual rays and to the phenomenal emanation or the affection which issues or flows out from the fountain head—through the focus to the lens, the image passes on from the double-point to infinity and through the whole series of negative values to the same point as the object and vice-versa. The spherical and the spheroidal wave surfaces touch one another at the extremities of the polar diameter and the ordinary and the extra-ordinary rays coincide both in direction and velocity along this common medial line—(the wave theory of light). The expansions and the contractions are the conjugate and reciprocal aspects of a system in involution, or of a system which has got to perform its cycles of operations between two fixed and definite forward and backward critical limits.

The regular succession of the days and nights with variations in their duration from practical equality in all parts of the world at the equinoxes to certain maxima in the polar regions at the solstitial points, and with reversals at the diametrically opposite positions would as well show the conformity of the different parts to the whole and to one another. [The *focus* of a system is the point which coincides with its conjugate. When the

two conjugate points always lie on the same side of the centre, they are real. In the opposite case they are imaginary. The distance between the foci is divided internally and externally in the same ratio at the *centres of similitude* and when one of the centres—the primary and the independent one—is at infinity, the other—the secondary and the dependent satellite factor—practically bisects the distance between the conjugate foci. (Cf.—The harmonic ratio of a pencil of four rays)].

Thus a beam of solar light when made to undergo fracture indicates both the dark and the bright *influence lines* always in co-existence and by the adjustment of the thermal, the luminous, and the actinic rays also brings to view the dispositions of both the material and living systems, and the source from which they have flowed out. Further, as the solar and terrestrial phenomena are reciprocal to one another, (Cf.—The mirage and the looming.) the hypothesis of the absorption of particular rays coming out from an inner stratum by an external layer as propounded by the German Philosopher Kirchhoff was only inequitable and anomalous.

The very fact that the *fixed lines in the secondary spectrum* do not generally preserve the same order of succession which they have in the *primary spectra* when different substances are used, although, the source of light remains the same and there is the unity of the extreme colours, would again show that the action of the *influence lines*—the forces of attraction and repulsion—is such that by undergoing disproportionate dispersion in media of different composition and constitution they can finally polarise the same for material strength or for external magnifying power, in opposition to their action in the living world which is to

be polarised for spiritual strength or for internal magnifying power, and so a combination of different media achromatic for all kinds of light is in general unattainable in the material system. This plainly takes away the negative significance from what was described as the *irrationality of dispersion* and makes the proposition a rational one.

*The phenomena of the polarisation of light and their utility in unfolding the truth :* It was seen before that when the living world endeavours to wander without restraint in contravention of the prescribed limits of time and space for the attainment of perpetual motion under the influence of heat, the material world begins to shrink and shrivel up; and as the former recoils and rolls back upon itself, the latter attempts to wander up and to attain perpetual motion. Absolute equality and oppositeness of power and resistance is only an instantaneous or a momentary phenomenon. Its continuance for all times can only lead to the destruction of the universe. To ensure motion there should be deviations from the said positions, but the doctrines of identity and perpetuity of steady motion require that the deviations should be small and of lasting affection. (Cf.—The constant high obliquity of the earth's axis to the plane of its orbit while the earth moves round the sun to bring the two poles closer together, and the fluctuating deviations of the human mind from the path of rectitude so that the heart and the mind, and as such the two counter-acting forces of society could come nearer to each other with the growth of the two-fold knowledge of conscience and reason, and could keep up their evenness like the systems near the double-point in simple parallel motion). The phenomena as regards the changes



of the systems are mutual and reciprocal. The systems are joined in pairs and they run parallel. The same disposition of the two main partial systems of becoming polarised by the rotation of the origin—which acts as the *polariser*—with a regular succession of remissions and percussions in contrary directions as shown by the displacement of the one calling out a restoring force directly opposite to it, can only bring to view the putting or the setting of the two images that are obtained in the case of polarisation of light by double refraction as the *analyser* is rotated. (Cf.—The changes in the nature and the physical conditions of the systems, the motions of the so-called fixed and binary stars, changes in the brightness of variable stars and so on).

The physics of the polarisation of light by reflection teaches us that in connection with the Malus's polariscope "the observer on looking into the upper pile, in such a direction as to receive the reflected beam, will find that as the upper pile is rotated about a vertical axis, there are two positions (differing by  $180^\circ$ ) in which he sees a black spot in the centre of the field of view, these being the positions in which the upper pile refuses to reflect the light reflected to it from the lower pile. They are  $90^\circ$  on either side of the position in which the two piles are parallel; this latter, and the position differing from it by  $180^\circ$ , being those which give a maximum of reflected light".

The phenomena are very striking. While light in its ordinary condition possesses the aptitude of wandering up and moving in all possible directions exhibiting brightness and splendour and unfolding the glory of the creator along with the *influence lines*, light in its extra-

ordinary condition after being polarised takes up a particular bias or an opposite direction—naturally, or as the fitness of things requires it—the direction of the greatest resistance, so that it can cease from motion,—making known the internal working of the universe as well as the vertex with the mingling of the parallel lines which emerged out and descended from it, putting in our mind the two extreme positions of perpetual motion and of perpetual rest which lie on either side in diametrically opposite directions, and disclosing the dark\* and the mysterious character of the author or the producer of things who always keeps his designs and future plans in concealment. The tendency of human actions is the same as that of light, namely, to show all—the way to the material resources and the path to peace—by actions ordinary, objective, external or crude-subjective, as well as extra-ordinary, non-objective, internal or keen-subjective.

“*Jus gentium and jus naturae*: The idea at the basis of the Grotian thought was as simple as it was profound, that the rules of conduct governing the actions of individuals must also be those governing the actions of the Powers, of the Governments.

“These tributes are just; but it is proper to add that as a pioneer Grotius had to blaze a trail, and that occasionally he lost the right direction, as for instance, when he confused *jus gentium* and *jus naturae*—the law of nations and the law of nature.”

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\* Any system of parallel lines may be considered as passing through a point at an infinite distance, for their projections on any plane pass through a point in general at a finite distance. (Cf.—The ‘bright spot’ at the focus of a lens with ordinary light when the source is at infinity).

Proceeding on the basis of the stark facts that we have so far discussed it is only reasonable to conclude that the conception, viz.,—that the law of nations is different from or independent of the law of nature—is a fallacious one. The living world and the material system are the opposite aspects of the same thing and are linked up together by the creation of invisible and impartible chains of mutual dependencies involving mutual and reciprocal interactions between the partial systems, that is to say, the tendency of perpetual motion—continuation of motion or motion forward without any restraint in the living world—is balanced by the tendency of perpetual rest—ceasing from motion or motion backward in the material system—and vice-versa, to adjust their comparative relations and to secure a consistent uniform conduct for the restoration of steady motion as well as for retaining the identity and perpetuity. The tendency to undergo changes beyond the prescribed limits is also adjusted by the expansions and the contractions of the universe, subject to the control from the origin,—the known centre of force at infinity—which supplies all the forces of repulsion, attraction, limitation and restraint.

*The final position :* Finally then, the position to which we have been led to by these discussions is that the tendency of human actions is the same as that of the soul—the immortal and the immutable principle in man—and of the mind, that is to say, it has the same peculiar distinctive qualities of light, water and its vapour in the material order of things, with resemblances and differences in relation to their course of actions.

It follows light, for it shows all—the sphere of material resources by war, as also the path to peace by approaching nearer and nearer, and tending to turn towards the source from which the universe came into existence, that is to say, it, like light, shows all by crude and keen subjective actions. It also slights to follow light, inasmuch as it does so, or it illumines all by the infusion of intellectual and spiritual or internal and incorporeal light as distinguished from the external and the corporeal aspect of material light. (Cf.—The sections on polarisation with reference to the divergence and convergence of the rays of light, and on the tendencies of human actions to show all). It disobeys vapour, for it is known to indulge, under the influence of heat, in vain imagination and unreal fancies as well as in boasting and vaunting with a tationous and ostentatious display of worth—which are unrealised and are actually unrealisable—leading ultimately to the determination of the truth when cooled. That it also obeys vapour would be shown by the consistency in the mutual relation between the constraining force, the degrees of animation in thoughts and the range of variations of stress. (Cf.—The sections on the composition and constitution of the human mind etc.) It imitates water, for while it is known to possess the properties of crushing, scouring and blowing up, carrying on dirty materials and so on, it is also known to have and hold the quality of washing up the store of knowledge to separate the coarse from the fine, truth from falsehood, and thus to enhance its effectiveness. The dissimilarities of dispositions, on the contrary, would come to view when the question of level is involved. (Cf.—

The sections on the illustration of rivers, water and human mind, and so on). The tendency, following three different routes, tends to become finally ingulfed into one. (Cf.—The relation between the system in involution and the pencil in involution, the forward and the backward motions of the forces of power and resistance, the augmentation and suspension of the state of separation in war and peace and so on). The tendency is always noble, it is always unselfish, for it always points out the way for producing a softening and soothing sensation by the installation of peace, and here we have only a precise account in short of the power, wisdom and goodness of God—the perfection of truth, knowledge, peace, unity, harmony,—as manifested in the creation.

By the integration of the differential equation of motion of a stream with a given discharge, when the surface slope is not parallel to the bed, framed on the basis of the principles of the conservation of energy, and by the applications of the principles in the domain of physics, it is perfectly possible to solve the problems in the material system to have recourse to the useful purposes of men; and the problems of the living world although more complicated, could still be solved by observing the corresponding physical concept and applying the results with necessary modifications, for it has now been established that of the two main partial systems the one is the opposite aspect of the other, or more strictly speaking, they are the opposite aspects of the one and the same thing, namely, the Divine Power, in spite of our inability of direct measurement in the present stage of our knowledge. With these as data,



it is hoped, that the hypothesis of peace which is going to be developed on the basis of the motion, action and the configuration of the system would be in a position to dispel quickly, "the gloom or the darkness or the obscurity, the cruel disappointment and the most painful disillusionment", to bring in speedy salvation and to help the rulers of the nations and their peoples in rolling round "a new world order out of the prevailing chaos", if really pursued, for the most judicious selection only of a medicine does not cure a disease. It has got to be used or swallowed up.\* It is the only specific against—*ultima ratio regum*,—the last argument of kings—or violent wars.

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\* "सुचिन्तितस्त्रीषधमातुराणाम्  
न नाममात्रेण करत्यरोगम् ।"

## CHAPTER VI

### The Hypothesis of Peace.

*The Geocentric and the Heliocentric Theories, Ptolemy and Copernicus:* In the beginning of the Christian era, according to the Ptolemaic theories, named after the Egyptian Astronomer and Geographer Claudius Ptolemaeus (127—161), the idea was that the Earth was the centre of the Universe, and the Sun, Moon and the other planets moved round it. This hypothesis was subsequently superseded by the hypothesis of the Prussian Astronomer Nicholas Copernicus (1473—1543), in which the idea was that the Sun was the centre of the Universe, (*Centrum Mundi*) and the Earth and the other planets moved round it. This latter hypothesis was accepted as correct, because it was found to be in accordance with the phenomena of the aberration of light. This is only a reversion to the hypothesis of Pythagoras, framed about 2,000 years before Copernicus came to this world. This is the same hypothesis, that we come across in Rig Veda. The Earth and the Sun which are reciprocal to one another are in the two foci of the Ecliptic.

*The Theories of Light, Newton and Huygens:* Similarly, there were two rival hypotheses as regards the nature of light. The emission theory of the English mathematician, astronomer and philosopher Sir Isaac Newton (1642—1727) was replaced by the undulatory theory of the Dutch scientist and mathematician Christian Huygens (1629—1695). The latter was

accepted as correct as it satisfied the crucial test of the velocity of light in water.

The time seems to be sufficiently ripe for framing a new hypothesis for the solution of the peace problem, in so far as it is compatible with the repetitions of the eternal and the unportentious cycles of action of the constraining mechanism which come into play with the lapse of time to maintain the identity and the perpetuity of a conservative system, and also quite consistently with the laws of creation that we have so long pursued and the facts and the materials of which we are now in possession from the past records of the world.

*Elasticity* : Elasticity is that property which all bodies have, in a greater or less degree of perfection, of returning to their original figure after being strained by the application of any kind of stress. When the elastic limit, or the limit of perfect elasticity is overpassed, the strains increase more quickly than the stress until the yield-point is reached, when there is a sudden comparatively large increase of stress, the body becomes in a plastic state and the strains go on increasing rapidly until the structure yields to the applied pressure and fracture occurs.

"Mankind is groaning under the burden of armaments. Freedom, humanity and civilization demand a limitation of armaments". "It is true." "Piling up armaments on an unprecedented scale" in excess of the capacity of the source of supply has, no doubt, an undesirable effect on the people, but at the same time reduction of armaments also on an unprecedented scale leaves a country in an exposed situation without protec-

tion against any applied pressure and which might cause the structure to collapse.

*The Hypothesis of Agents,—Armament and Disarmament:* The artificial safeguard in political societies, corresponding to the weirs and the breast-walls, is the armament. This is not an international military establishment as was contemplated in the Great Design of Henry IV, but an independent military force of each state, or armaments and armament secrets in a repleted state for all the countries so long as the policy of the ordinary diplomatic obligations alone continues, if an impelled interim calm atmosphere for the study of the issue on the questions of securing lasting world peace, and of shifting the intensity of global wars to the lowest possible limit is to be created.

The idea of disarmament as an instrument for securing perpetual international peace dates as far back as the Great Design of Henry IV, and it can be traced through all the machineries devised during the last 300 years or so, including the League of Nations brought to being on the 10th January 1920, after the last war of 1914—1918. The first peace conference was held in London in 1843. The Universal Peace Conference of 1848-51, the Pan-American Congress of 1889, the Hague Conferences of 1899—1914, before the world war are well known facts of history. All these conferences contemplated disarmament. "The decisive step was taken by Russia. In August 1898 the Czar Nicholas proposed to the Governments represented at St. Petersburg that an International Conference should meet to consider the most effective means of ensuring to all peoples the benefits of a real and lasting peace, and, above all, of limiting the progressive development of existing armaments."

Armament is not the cause of a war. It is only an instrument by which a war could be carried out, if necessity arises, and it is also a prophylactic or a preventive of wars for a time as it has a deterrent effect on the enemy. Disarmament alone also has only a transient tranquillizing effect. India was disarmed after the mutiny of 1857, and there was no war between England and India for about half a century. Unilateral disarmament can only lead a nation to a position of weakness and gives an opportunity to the armed powers to carry on wars against the disarmed ones, and when multilateral warfare grows up in a lurking or in a concealed state. But disarmament, apart from others, is not the cause of lasting peace. India is a disarmed country, but still there is war going on between England and India. But the war is not the same as that between two armed nations. The weapons of India are non-violence and truth. These weapons were forged long ago in India and they could be traced back to the *Yoga-philosophy of Patanjali*. These weapons have very great potentialities, and they can achieve miracles, but "turning the other cheek" is only a mistaken principle.

If a man, a nation or a country is to have safety and security against aggression by others, it must have strength enough to resist that aggression, that is to say, it must have sufficient and efficient weapons to resist an attack. To overlook it, is to commit the error of non-observation. It is non-observation of the intellectual condition of observation.

"The policy of disarmament was pushed further even after the world war of 1914-1918. The Covenant of the League of Nations clearly contemplated, if it did not dictate, disarmament. The Washington Naval Con-



ference of 1921-22, resulted in the limitation of naval armaments and imposed restrictions, as to the size of future ships. By 1925 Great Britain had reduced her total Naval strength, as compared with 1914, by 48% and France by 10%. But, on the other hand, the U.S.A. had in the same period increased it by 17%, Italy by 20% and Japan by 35%. Japan in the same period increased her army by 22% and the U.S.A. by 40%, while Great Britain and Italy had made substantial reductions. The army reductions were, of course, spontaneous, and irrespective of the Naval Treaties of 1922 and 1930." The conception that disarmament by itself is the cause of lasting peace is an erroneous one. But still Great Britain spontaneously gave effect to the policy of disarmament. If she had not done so, it would not have been necessary for her, with her extensive dominions beyond the seas, where the sun never sets, to complain of the state of unpreparedness at the beginning of the second world war, and it would not also have been necessary for the British Prime Minister to proclaim to the world after the fall of Singapore in the middle of February 1942, that British Imperialism had suffered a defeat, and still more, the late war which has convulsed the whole world could, probably, have been retarded and kept back standing over.

Further, proceeding from disarmament as the assumed cause of lasting peace, the European nations in their attempt to find a clue to the solution of the problem became "enmeshed in a vicious circle" over the question of security, disarmament and arbitration. It is only natural. The creation rolls on in a consummate cycle and the situation is such that the implication of the transitional causal connection between armament

and impelled peace cannot be ignored and, at the present stage, it gets its support from the abnormal condition of the 'mutual diplomatic obligations alone', under the influence of which the world is moving. Armament, then, is the first condition of peace as it has a deterrent effect on the enemy and it serves to restore steady motion by acting as a buffer-block, or as an apparatus for deadening the concussions produced by the outward pressure of objective operations, and in subduing the velocity of external actions. But armament has also its defects. "Mankind is groaning under the burden of armaments. Freedom, humanity and civilization demand a limitation of armaments." Any augmentation in the strength of armaments at this stage is sure to be followed by commotion and upheaval like the very great disturbance and the general oscillation of the water which passing over the breast-wall falls into the intermediate space between it and the sluice, but this will not affect the stability if proper precautions are taken in the judicious adjustment of the machineries of Government and the armament, with an eye to the potential conditions to be referred to in the sequel. Whatever it may be, the deficiencies and the imperfections are still there. The strength of an armament is limited by the military resources of a particular country, and the strength, if developed even to the fullest possible extent, may not be in a position to cope with that of another bigger country, and so the possibility of a war springing up cannot be avoided. Alliance between some of the smaller and the weaker states to have armaments militarily equal to those of the bigger and the stronger ones would appear to afford a reasonable solution of the problem, but this also has its limitations, and it would be too much to expect lasting

peace with the help of armament alone. Even scientific wars cannot end wars, but can only create another battle-ground outside the war-zone, although there is military and financial exhaustion as well as economic upheaval and disturbance in the organised life of the nations provoked by the fierce and frightful devastations or the horrors of a famine—the aftermath of a war—an evidence in support of the recoiling or the morbid retention of resilience of the material system, consequent on the expatriation of unhealthy human activities. So what is proposed is only provisional for the purpose of meeting an exigency as far as practicable till the final destination is reached. An armament is both a *positive* and *negative* catalyser for it hastens and prolongs peace as well as retards and shortens war and so the armaments of the nations are to act only as catalytic agents until they could be supplemented by something more powerful and forcible in action, and until the latter could be placed in a position of commanding the situation leading finally to the loosening or the dissolution for the greatest part of the armaments and of the standing armies and an attempt would be made to discuss these powerful and the forcible elements in the following remaining portion of the work.

The provisional arrangement of armament is for counteracting and preventing the ill-effects of the disobedience and deflections of human nature, and with the minimization of these factors the necessity for the maintenance of standing armies would also be practically eliminated. An armament is only a passing phenomenon and is an interposed transitory contributive aspect which can be reduced to a very low limit, but cannot be entirely dispensed with. A properly proportionate allot-

ment of war is a preventive, and as such is a preservative necessity even at the ultimate stage. '

*The Holy Alliance,—Love and Religion,—The Czar Alexander I, Lord Castlereagh and Metternich :* "The Holy Alliance originated in the brain of the Czar Alexander I, 'the autocrat of all the Russias' and was put forward when he and his allies were assembled to make peace in Paris at the close of Napoleonic Wars in 1815." To return to the terms of the Alliance—"the three Sovereigns—the Czar Alexander I of Russia, Emperor Francis II of Austria and King Frederick William III of Prussia,—grateful for the favours vouchsafed by Divine Providence to the allies, and convinced of the necessity of 'settling the steps to be observed by the Powers, in their reciprocal relations, upon the sublime truths which the holy religion of our Saviour teaches', solemnly declare that 'the present Act has no other object than to publish, in the face of the whole world, their fixed resolution, both in the administration of their respective States, and in their political relations with every other Government, to take for their sole guide the precepts of that Holy Religion, namely, the precepts of Justice, Christian Charity and Peace, which far from being applicable solely to private concerns should have an immediate influence upon the counsels of Princes and should guide all their steps.' Consequently, Their Majesties have agreed on the following articles :—

"Art. I.....The three contracting monarchs will remain united by the bonds of a true and indissoluble fraternity, and.....will, on all occasions, and in all places, lend each other aid and assistance; and.....will lead (their subjects and armies) in the same spirit of fraternity

with which they are animated, to protect Religion, Peace and Justice. \*

“Art. II.....The three allied Princes, looking on themselves as merely delegated by Providence to govern three branches of the One family.....thus confessing that the Christian world, of which they and their people form a part, has in reality no other Sovereign than Him to whom power really belongs.....recommend to their people, with the most tender solicitude, as the sole means of enjoying that Peace which arises from a good conscience, and which alone is durable, to strengthen themselves every day more and more in the principles which the Divine Saviour has taught to mankind.

“Art. III.....All the Powers who shall choose solemnly to avow the sacred principles which have dictated the present Act, and shall acknowledge how important it is.....that these truths should henceforth exercise over the destinies of mankind all the influence which belongs to them, will be received with equal ardour and affection into this Holly Alliance.”

“The Prince Regent of England, though immediately and pre-eminently invited to adhere to the Alliance, felt himself precluded ‘by the forms of the British Constitution’ from formally acceding to the Treaty, but conveyed to the august signatories his ‘entire concurrence in the principles they had laid down, and in the declaration they had set forth of making the Divine precepts of the Christian religion the invariable rule of their conduct in all their relations, social and political’. Most of the other Sovereigns of Europe, including the Kings of France, the Netherlands, Wurtemberg and Saxony, and the Governments of the Swiss and the



Hanse Confederations did, in fact, adhere to it. Metternich, at the moment, regarded the whole transaction with cynical contempt, though he subsequently made use of the alliance to promote the ends of his reactionary policy. Castlereagh, like most Englishmen, shrank from the ostentatious profession of religious motives in politics, and regarded the manifesto as a 'sublime piece of mysticism and nonsense.' His reception of the Project was, therefore, though studiously polite, characteristically ironical. 'The benign principles of the Alliance of the 26th of September may', he wrote, 'be considered as constituting the European system in the matter of political conscience. It would, however, be derogatory to the solemn act of the Sovereigns to mix its discussion with the ordinary diplomatic obligations which bind State to State, and which are to be looked for alone in the treaties which have been concluded in the accustomed form.' Castlereagh had, moreover, grave doubts as to the sanity of the Czar. Canning was more suspicious of his sincerity. But Canning was brought into immediate relations with the Holy Allies only after the alliance had been perverted to reactionary ends. That perversion was primarily due to Metternich."

The question, then, that naturally arises is whether there should last any logical distinction between *religion* and *politics*, if *security*, *peace* and *prosperity* are to be the underlying motives of any Government, and if so what?

The French and Latin root meaning of the word *peace* is to fasten and fix up. When a thing is fastened or fixed up it comes to a state of rest, and so rest or repose is the Sanskrit root meaning of the word *peace*. Peace, then, evidently means freedom from fear, terror,

anger, anxiety etc., and so the very idea of securing lasting peace by treating fear, terror and so on to act in opposition to that idea is self-contradictory, and can only lead to another war. Evil thoughts, evil words, evil deeds are responsible for all sorts of sins and criminal actions in human society. If the sins and the criminal actions are to be eliminated, there must have some force of restraint on those thoughts, words and actions from which they originate. The stronger is the force of restraint and the more steady it is in time, the greater is the intensity and the greater is the duration also of peace resulting therefrom. The French, Latin and the Sanskrit root meaning of the word *religion* is that which binds the different fragments of the whole system together in a safe, sound and entire state to preserve them from loss, waste or injury as a force of restraint and therefore there exists the relation of *inseparable connection* (Cf.—Sanskrit—संयुक्त-समवाय ) between *religion and peace-unity-harmony*. The idea of assuring *lasting-world-peace*, therefore, without the intervention of a cogent and a continual force of restraint on our thoughts, words and actions, is absurd, anomalous and is inconceivable. It is the force of restraint or resistance which is solely instrumental in bringing to view the series of infinite shades of fineness, as also in bringing about salvation as observed before in a previous chapter. The word *politics* signifying as it does, the wisdom, prudence and sagacity in devising and pursuing measures adapted to promote the welfare of the citizens—invitation or solicitation for the pleasurable possession of the ordinary boon or blessings of Society and Civil Government—the enjoyment of peace and prosperity—clearly rolls firmly upon the conception of

the judicious practical application of the laws of creation, or the precepts of religion, for the growth and benefit of the human society, and shows plainly the *inseparability* of the one from the other. To think of politics without what *religion really implies* is simply to disclaim the truth.

Balance of Power without an equal and opposite resistance is unthinkable. But absolute equality and oppositeness of power and resistance is only an instantaneous or a momentary phenomenon. Its continuance for all times can only lead to the destruction of the Universe. To ensure motion there should be deviations from the said positions but the doctrines of identity and perpetuity of steady motion require that the deviations should be small. It cannot be denied that it is on betaking one's self to the extreme position of smooth and equably moving adjustment of the two reciprocal forces of repulsion and attraction, that is to say, to the position in which each member of the human society,—while passing with the idea of contrast,—affects another and is equally affected by him with the affection or the tenderness of feelings acting as the chief predisposing cause, that dynamic stability can be restored and peace can be made durable; or to put it in other words, the adaptation of the two contradictory elements of society nearly to equality and to reciprocal succession mainly by keen-subjective actions as awakened by the light of spiritual knowledge is the only means by which inquietude or disquietude could be set off by contrast in the living system. But still the Holy Alliance was miscarried, with the result that the International Law of Grotius and Kant as well as Lord Castlereagh's conception of the ideas of "the ordinary diplomatic relations which bind State to State and which

are to be looked for alone in the treaties", have failed in their object in pointing out an orderly direction in the restoration of firmness, steadiness and consistency to the human system, and the failure was due, as observed before, to the omission to reduce the 'heads' or the 'relative inequalities' or the very wide differences between the strengths and the resources of the states as well as of individuals or citizens to the lowest possible limits as required by the Laws of Nature. Knowledge, it was said before, is a joint and composite demand and supply and comprehends the two reciprocal aspects of materialism and spiritualism. They are inseparably, collaterally and reciprocally connected together and the idea of eliminating the one from the other is inconceivable with the Universe remaining as it is. The problem that confronts us today is simply the effect of the negative fallacy of non-observation of the chain of mutual dependencies between the two and of overlooking altogether the inseparable, collateral and reciprocal connection between them which keeps the creation in existence, and of the positive fallacy of mal-observation which regards only a small, broken or a fractional part for the whole. It goes without saying that the two together (materialism and spiritualism), forming as they do, the component parts of one of the homographic and homogenetic orders of a system in involution, there exists a very sharp line of demarcation between law and treaty on one hand and spiritualism on the other. The former is only a rule of direction, but the latter is a rule of direction accompanied by a feeling of reverence and love and consequent return of duty and obedience. Law is changeable, while Spiritualism is immutable. The one is defective and the other is perfect.

The former is carnal and the latter is Aaronical or acronical. Spiritualism acts as a brake in retarding the motion brought into existence under the impulse of crude-subjective actions in any part of the system supplementing the deficiencies both of armament and of treaty and International Law and lessening the strain on the national chests.

The precepts of religion, embodying the rules and the principles of creation are invariable and immutable in character and it is only out of love and affection on the part of the All-Powerful—the Unvarying and the Everlasting Force of Restraint—God the Absolute—that the eternal truths disclose themselves.

“Nevertheless, the motives of the Czar and his august allies were from the outset suspect”. In view of the state of affairs that has been prevailing in the human society, the suspicion was not without its justification. But “the suspicion, the cruel disappointment and the painful disillusionment” would disappear and the task for the installation of peace would be much more easy if the precepts of religion could get an opportunity of acting as the sole guide—“both in the administration of respective states and in their political relations with every other Government” and if it could be placed in a position of commanding the situation by the acquisition of knowledge and wisdom and getting hold of the truth without the sacrifice of the nearest and the dearest under the intoxicating influence of the active principle of creation. This is plainly the most pleasant course to adopt..

*Knowledge-wisdom*—(ज्ञानानुक्तिः—साक्षादर्शन) : It was said before that the condition or the circumstance



which gives rise to the force of restraint is a variable factor in different men at the same time and also in the same man at different periods of time and this is only in consequence of the difference in their relative positions in the circuit with reference to the centre of force. The efficacy of the force of self-restraint varies directly as the spiritual strength which produces it, and when it falls below the safe limit due to decrease of spiritual knowledge or illumination with a corresponding increase in material craving, a war or a crude revolution is the consequence.

The beginning lines of the prologue in Sir John Marriott's book are—"Does the world stand today on the brink of a catastrophe? The question, constantly reiterated, is variously answered. But all answers agree that the contemporary situation is one of appalling gravity. Such crises are apt to recur in world-history. A like situation evoked the despairing cry of the great prophet of the Hebrews: 'The way of peace they know not..... Therefore is judgment far from us, neither doth justice overtake us; we wait for light, but behold obscurity; for brightness, but we walk in darkness. We grope for the wall like the blind, and we grope as if we had no eyes; we stumble at noon day as in the night; we are in desolate places as dead men..... We look for judgment, but there is none; for salvation, but it is far off from us.' Salvation seems, in truth, to be far off from us today; the nations are groping in darkness; could they discern the light they would, for the most part, follow it; but they grope as if they had no eyes. Gladly would the rulers of the nations evolve a world-order out of the prevailing chaos. But they know not how. They wait for light, but behold obscurity. Moreover, they and their

peoples are suffering a cruel disappointment, a most painful disillusionment."

A war, no doubt, is the unavoidable concomitant of creation and such crises are apt to recur in world-history. But this is not without its prophylactic. It has its antidote, it has its preventive. In obedience to the immutable laws of nature both good and evil, light and darkness, virtue and vice, crime and the seed of its detection, a disease and its remedy lie together side by side. Water follows fire, peace comes after war. Water is the prophylactic of fire, Peace is the antidote of war.

A war cannot have any independent existence without the idea of peace lying by its side as here also there is an inseparable, collateral and reciprocal connection between the two. A cataclysm of nature, such as a war, a deluge, a famine and so on, causing a sweeping and overwhelming calamity common to all, awakens the dormant light of knowledge and kindles the desire for the attainment of a clear and certain perception of the truth and of that which really exists, namely, the laws of creation and which were described before as the precepts of religion. This power or the faculty of knowledge,—the outlook for the realisation and generalisation of the state of affairs, so that the stability of motion may be restored—moves along with a continual change of place as the cycle progresses with the advance of time, and owing to the elastic disposition of the mind of swinging back to the original condition (within the limits of perfect elasticity of course) even after being subjected to the strains caused by the stresses of shrinkages and swellings, augments by addition, becoming more and more copious attaining gradually the stipulated condition and melting into peace

quite in conformity with the conception of the *method of fluxions* in physics, that is to say, the power of spiritual knowledge which is a force of restraint against the tendencies of the different parts of the human system to get away from one another acts continuously and not by fits and starts and is cumulative in character like the force of gravity, or the motion of a comet or a planet, and in connection with which the acceleration, uniting and acting with the limiting influence of time, transforms itself into velocity till the fixed point is reached, but the velocity of motion and the nature of action in one with reference to the centre of force are the reverse of what they are in the other.

The inverse relation between the living world and the material system would here again be clearly apparent by taking into account the tendency of the former to converge towards the position of the nearest approach to perpetual peace by the augmentation of spiritual knowledge and the enfeeblement of the forwardness of feelings under the constraint of greater attraction, together with the drift of the latter to converge towards the condition of the nearest approach to perpetual motion by the growing of gravitation and falling off of the force of friction under the pressure of greater repulsion.

The material bodies do, no doubt, acquire a tendency to converge to the position of perpetual motion on approaching the centre of force, but it is the absence of driving or impelling power and their inability to deviate from the stated forms and laws due to the interruption from a positive-negative external agent, which make the proposition impossible, putting a stop to the conception of spontaneous generation and unveiling the fallacy of

the Darwinian theory in his *Origin of Species* to prove "that the numerous species now existing on the earth sprang originally from one or at most a few primal forms; and that the present diversity is due to special development and natural selection." Perpetual motion in one and perpetual rest in the other of the two systems, or perpetual motion or perpetual rest in the two, taken by themselves, plainly mean the same thing, namely, the dissolution or the destruction of the Universe, which we have seen is an inconceivable idea. Reciprocating the above proposition, the well-ordered consistency in the relations between the complementary systems would further prove that the pencil in involution gradually converges to a remarkable point—the point of brightness and splendour—the origin and the common progenitor from whom the series or the succession of progeny or relations descend, with its location at an infinite distance—and that the creation lies stretched under it, and is embraced within its grasp, involving the conception of protection and subordination, and also indicating the relation of repulsion and attraction with the object of disclosing the truth, and developing knowledge by forward and backward motions. (Cf.—*Rig Veda*.)—

विपादूर्ध्वं चदैतृषुरुषः पादोऽस्थेऽहमवत् पुनः ।

ततो विष्वङ् व्यक्रामत् साशनानश्ने अभि ॥

तस्माद्विराड् जायत विराजो अधिपुरुषः ।

स जातो अत्यरिच्यत पश्चात्भूमिमथो पुरः ॥

*Rig Veda—Purus-Sukta—Tenth-Mandal.*

The position of concord and harmony in question as

given above tends to cause the whole thing to be symmetrical with the conformity of the different parts to the entire aggregate and to one another, and makes us believe that the creation is very deeply affected by the creator who, from his location at infinity, passes silently and gradually through every part in unceasing unobserved progression from one state to another, and maintains his attitude by being inflected in the shape of crude and keen subjective impulses which give rise to the never-ceasing continuous cycles of operations in the same fashion in all places and for all times, so that an identical system could be carried on to perpetuity. The proposition would be seen to be true and correct, quite obsequiously to any source or beginning from which we might be pleased to look at it, and the phenomenon is simply a lively turn of thought which strikes the mind with wonder and admiration. The conformity of the different parts to the whole and to one another, with the relation between the Creator and the creation as given above, also suggests that God can only be approached or reached only by means of knowledge and wisdom, ( "ज्ञानज्ञेयः ज्ञानगम्यः" ) but the creation cannot sink in Him, ( "न देवाः सृष्टिनाशकाः" ) and this would be seen to present some additional knowledge regarding the power, wisdom and goodness of God, as manifested in the creation.

It is this power of spiritual knowledge, when practically applied to the best ends and to the true purposes of life, by allowing it to act practically independently of any retardations and deflexions, involving a free expression and communication of generous feelings and sentiments, as well as without gambling with a deformed notion of self-realisation,—( "यस्तु क्रियावान् पुरुषः सः विद्वान्" । ) that can



secure and maintain a harmonious arrangement of the different parts of the system with regard to one another and to the whole, and of the laws by which their motions, functions or the developments are supposed to be regulated. It is the same thing that can put to an end all the troubles and afflictions which may have their origin in inordinate external or internal actions, or to put it in other words, it is the same thing that can transform the situation from the position of appalling gravity, to one of softening and soothing tenuity, after travelling through the shortest possible distance, and with the least expenditure of time. Any act of retardations and deflections can have only the effect of increasing the distance, and prolonging the time of reaching the destination—the position of the nearest approach to perpetual peace.

The tendency of the different parts of the human system to get away from one another, when restrained by the power of keen knowledge of the precepts of religion and compensated for the loss of illumination, undergoes a change from the position of coarseness to one of fineness which remains the same throughout the journey, and brings to light the latent or the lurking qualities of purity, simplicity, freedom from duplicity, or what is known as the attribute of "*Sattva*", and it is through "*sattva*" that tenuity transpires. (Cf.—सत्त्व लघुप्रकाशकम् ।)

Perpetual motion is impossible. The nearest approach to perpetual motion is the motion of the Earth in its orbit, and this is due to the very great tenuity or thinness of the medium through which the Earth moves, and the perpetual maintenance of that tenuity in that particular state or condition. Here it is also to be ob-

served that the phenomenon of the nearest approach to perpetual motion of the earth in its orbit is an indication of the fact that the tendency of the universe is always to overturn the motion of the living world in the contrary or opposite direction—to the state of the nearest approach to perpetual peace—by raising the reaction to be equal to the action, with the unfolding and unravelling of tenuity, for the purpose of throwing light from the origin from which the universe has flowed out, quite compliantly with the nature's policy of maintaining its identity and perpetuity, but it is the retardations and the deflections which are caused to exist that are responsible for the delay in reaching that situation. However, the conception of the Commonwealth of Nations, with the characteristic features of reciprocally active and passive functions and infolding practical equality between the two antagonistic forces of society, chiefly on the basis of internal actions, and partly on the support of 'the ordinary diplomatic obligations which bind State to State'; or the position as foreseen by the Great Victorian Prophet:

"After madness, after massacre, Jacobinism and  
Jacquerie,

Some diviner force to guide us thro' the days  
I shall not see?

When the schemes and all the systems, Kingdoms  
and Republics fall,

Something kindlier, higher, holier—all for each  
and each for all?

\* \* \* \*

Earth at last a warless world, a single race,  
a single tongue—

"I have seen her far away—for is not Earth as yet  
so young?"

\*       \*       \*       \*

Robed in universal harvest up to either pole she  
smiles,  
Universal ocean softly washing all her warless  
isles".

with allowances for poetic overshooting, seems to be the shadow of that reciprocal state cast ahead, and of which the egotistic world may not have the slightest idea. The world, as it is, is the best world possible, and it is the affection which issues or flows out from the fountain head that has kept up the Universe in eternal existence. *Omnia Vincit amor*—love conquers all.

Then again, when the position of the nearest approach to perpetual peace is once attained, it would evidently require the constant application of energy and efficiency to maintain that tenuity in that particular state or condition, and an attempt would be made to take notice of this aspect of the question in the paragraph that follows:—

*Energy, efficiency and constancy,—Vestigia Nulla retrorsum:* Any diminution in the standard of knowledge-wisdom and consequently of love-religion which is consistent with the security, can only be followed by a corresponding set back in the state of peace, and this evidently implies that if the state of peace is to continue the standard of the two factors must have the same permanent and unalterable relation which it bears to security—that is freedom from fear, terror, anger, anxiety—and

this also contemplates that the statesmen who are entrusted with 'the task of maintaining peace should have energy and efficiency enough to keep up the systems constantly in an efficient state. *Vestigia Nulla retrorsum*—no foot-steps backward. "The chance of obtaining a practical monopoly of any branch of production presupposes a constancy in the application of genius, energy and enterprise for generations together"—Marshall's *Economics*—Page 485.

*The Rig Veda and the Hypothesis of peace*: The hypothesis of peace that was developed by the sages of ancient India and was incorporated in the Rig Veda (4th Mandal) was "Let the old-eared *Indra*, *Brihaspati*, '*Pusha*' (the sun), '*Bishwa-Vedas*' (all knowledge-wisdom) and the pupils of the two eyes put in or restore peace and security in so far as it is compatible with the repetitions of the eternal and the unportentious cycles of actions of the constraining mechanism which come into play with the lapse of time."\* Let us now see what this really means.

*Indra* was described as living in a palace (*Baijaya*) with the flags flying on its top. He is the owner of horses, (*Uchaisrabas*) and of elephants (*Airabatas*) obtained by the churning of the ocean. He wields a bow, his chariots fly across the sky. *Indra*, thus, evidently refers to a prince, a sovereign or a monarch. It is not possible for a prince or a sovereign or a monarch to see everything for himself with his own eyes, and this plainly requires that he must have old and experienced

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\* "सस्ति न इन्द्रो वृद्धश्रवाः सस्ति नः पुषा विश्ववेदाः सस्ति न  
सात्ययुजिरिष्टनेमिः सस्ति नो बृहस्पतिर्दधातु ।"—Rig-Veda,—Fourth Mandal.

ears to judge for himself which of the materials placed before him he should accept and which he should leave.

'*Brihaspati*'\* was described as dressed in yellow garments—the symbol of love, wisdom and constancy. He was depicted as seated on a lotus—the emblem of beauty, loveliness and prosperity. He has four hands—one for invitation or solicitation, the second for boon or blessing, in his third he holds a sceptre—the badge of command—the appropriate ensign of strength—and in his fourth there is a receptacle for water which possesses the property of producing a softening and soothing sensation. He has his face always turned towards the Sun—the terrestrial centre of force—and the position portrays the conception of reciprocal relation between the two main partial systems of the Universe. "*Brahma*"—the god of creation—is his presiding or the guardian diety, and as such "*Brihaspati*" is supposed to be well-familiar with and well-skilled in the Laws of Creation. He is efficient in himself and is capable of imparting that efficiency to others. He is the Preceptor of the Gods. He always acts reciprocally, or as a force of restraint to '*Indra*'—the God of Power and the presiding diety of the atmosphere or of the pervading influence. The expression '*the pupils of the two eyes*' signifies distinctness of vision and the power of seeing things rightly, as well as the ability of keeping eyes equally in all directions for all times. The typical representation of '*Indra*' and '*Brihaspati*' would, therefore, appear to correspond to the conception

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\* "ध्यायेत् पौताम्बरं जीवं सरोजस्थं चतुर्भुजं ।

दक्षीर्दाक्ष वरद करका दण्डमाह्वयेत् ।

ब्रह्मादि देवतं सूर्यास्यमिन्द्रप्रत्यधिदेवतम् ॥"



relating to the adjustment of power and resistance, or of the two conflicting constituent principles of Society for the installation of peace.

*The conclusion, a suggestion—the hypothesis of collocation:* In all that has been done so far an attempt has been made to select the materials only with which may be built the super-structure of lasting world-peace. All the units of the great human society on the surface of the earth do now seem to shine supreme, individually and collectively, in the extreme terminus of unsteady motion and action, and exhibit the same tendency of seeking a common meeting-ground.

Successive Peace Projects and Peace Congresses have failed in their object, viz., the elimination of war as an instrument for the settlement of International disputes. The real state of affairs that actually prevails in the human society is very different from the conceptions on which the machineries for the realisation of the aims and the ideals were framed.

Marx's interpretation of history brought about a new wave of sensation in the contemporary intellectual world. He finds history to be a ceaseless war between two antagonistic forces of the society—the ruler and the ruled, the exploiter and the exploited. As soon as the people got into the agricultural world, they detected the enormous potentialities of the land and this gave a handful of men an unique opportunity of utilising the labour power of the teeming millions entirely to their own benefit. Thus passing through so many stages, namely, serfdom and feudalism, human history crossed a new era—an era where the guiding force of the society is capitalism,

a structure of society based on the principle of social means of production and private means of appropriation. Thus a conflict is sure to ensue between these two forces of the society—labour and capital—and it is quite evident that the contradiction of the capitalistic society would bring about the destruction of the structure itself giving rise to socialism, where all distinction between classes would be wiped out of existence once for all. In a classless society, like this, people would live in harmony and co-operation with one another and put their whole energy and capacity for the upliftment of the bigger society and all possibilities of war between man and man would naturally be washed away from the chapter of the history.

To think of a *classless society* and of a *warless world* is to ignore the sets or the ranks on natural distinctions and to overlook the fundamental impulses of human nature. The frowardness of feelings is a force of restraint against perpetual peace and its elimination means only the elimination of the Universe. The position would not improve with the destruction of the present capitalistic society. The real cause of the trouble would then react the other way and would give rise to the same game of *power-politics* and to the same display of *ceaseless war* between two opposing forces which it is intended to set aside. "Liberty without obedience is Anarchy."

Passible and emotional prejudices are there and they must exist if the creation is to continue. It is their lowest possible limit,—the reciprocal state or steady motion and action—that concerns us. *Reciprocity* is the order of the Universe. *Reciprocity* is the law of *peace*. It is the *friction of motion* that contributes to the stability of a structure. The problem of lasting world-peace organisa-

tion, therefore, when studied in the light of the laws of creation that we have so long pursued, and the facts and the materials of which we are now in possession from the past records of the world, and if we go deep into the root of things with penetrating thoughts and distinctness of vision, reduces itself simply to the allusive picture of '*Indra*' & '*Brihaspati*' as seen before-hand by the thinkers in India and incorporated in the Rig-Veda. The idea of securing a softening and soothing sensation by the installation of peace, speedily and quickly, ensuring preservation from unnatural destruction, and entailing placidity and prosperity, is inseparably connected with the position, in which, while all the units, big and small, should have sufficient strength to stand against the risk of being taken in by an adversary, there should as well be close and intimate contact of the bigger and the stronger ones with the smaller and the weaker components to satisfy their tendencies to grow up. Expressed otherwise, it is on contributing to the growth and the excellence of knowledge-wisdom, love-religion, and to the constancy in their efficiency to bring down the 'heads' or the 'relative inequalities' to the lowest possible limits by uplifting the smaller and the weaker parts, and placing them under the cover of self-directing safety and security, in so far as the different fragments or the distinct sorts of the great human society are concerned, to make provision against infraction and aggression of any one by another, or it is not by renouncing the power, but it is by maintaining an all-permeating propriety in the adjustment of power and resistance or of spiritualism and materialism, bearing up the balance or equipoise under changed conditions in moving from one state to another with a clear and certain

perception of truth, and of that which really exists, and showing always the same face like the Moon, to secure and maintain a regular harmonious whole, in so far as the several individual attitude is concerned; and with reference to the collective aspect of the question, it is on promoting the progress of an all-pervading *involutionary socialism*, or socialism of symmetry, that is to say, socialism, in which the oppressed and the aggrieved ones of the two antagonistic forces of society in any place are to organise themselves for struggle, and to confront their opponents with proper and diversified inflectional changes in their various relations, (Cf.—The reciprocal relation between *Brihaspati* and *Indra*) so that with the growth of the two-fold knowledge of conscience and reason to the fullest possible extent, entailing the maximum augmentation of the attractive force of spiritual strength, and the necessary proportionate diminution of the repulsive force of material craving, the several bitterly arrayed parties are left to the only alternative of being driven on to the ultimate position of the nearest approach to perpetual peace, or to the position of steady motion and action,—corresponding to the position of the nearest approach to perpetual motion of the earth in its orbit,—as so many groups of twos that are united to contrast, and that are adapted for moving always under the constraint of the same ideal standard of perfect truth and justice, in imitation of the movements of the twins near the node or the double-point in simple parallel motion, that a new world order can effectively be rolled round out of the prevailing chaos with rapidity and promptitude, leading to the *Fraternity of Nations* and *Diminution of Standing Armies*, the entire armaments of the several

States acting as catalytic agents, or as instruments, or as means to an end, at the initial stage, for the purpose of building up the super-structure of peace. The purely revolutionary socialism of Marx, Engels and their orthodox followers, as well as the merely undiluted doctrine of political organisation of the evolutionary socialists are simply the two extreme hypothetical cases which can have no *locus standi* in this world as created, "for the reshaping of the human society upon new and better lines." World-history is to be given a prominently *psychological* interpretation rather than *economic* or *scientific*—if *peace* is to be made the objective. An almost perfect Commonwealth of Nations is a clearly conceivable state of affairs, and is a perfectly practicable plan for the growth and benefit of the human society.

"To point the moral is easy. To reconcile in practice the contradiction is immeasurably difficult. That problem baffled the Statesmen of 1820, and a century and a quarter has not sufficed to solve it." Quite naturally. But to avoid it, or to withdraw from it, is to face the other possible alternative of being simply tossed up, rising and falling in violent commotion and convulsion, or becoming scattered and battered,—along with the drift of the overbearing influence, till the final destination or the last resort is reached. The creation, as we have seen, is a system in involution or is in a critical state. Any thing else is inconceivable. In obedience to the immutable laws of nature, a disease and its remedy lie together side by side, and it seems that the reaction of the natural remedy for curing the social disease has already set in. Science or Psychology, the one without the other, is not



the sole disposer of our destiny. The capricious prank of the mind must lag behind the truth.

The help of the All-Powerful is always with us to develop the scientific political philosophy, or the scientific philosophy of life and to build up the edifice of lasting world-peace for the growth and the benefit of humanity. The compromise benefit curve in Economics does not pass through the origin. The task of construction is plainly the work of the human society. Peace is a joint and composite demand. It is pre-eminently a keen-subjective phenomenon. It is primarily an "affaire du cœur" or an affair of the heart. It is the manifestation of an **exalted** and **pellucid** mood. A man is to live in this world, but he is not to be of it.

"आगतो विषयान् पुंसः सङ्गोपपजायते ।

सङ्गात् संजायते कामः कामात् क्रीडोऽभिजायते ॥

क्रीडात् भवति सङ्गोदः सङ्गोदात् श्रुतिविभ्रमः ।

श्रुतिभ्रंशात् बुद्धिनाशो बुद्धिनाशात् प्रणश्यति ॥

रागद्वेषवियुक्तैस्तु विषयानिन्द्रियैरनृत् ।

आत्मवश्यैर्विधेयात्माप्रसादमधिगच्छति ॥

प्रसादे सर्वदुःखानां हानिरस्योपजायते ।

प्रसन्नचेतसो ह्यायु बुद्धिः पर्यवतिष्ठते ॥"—गीता ।

